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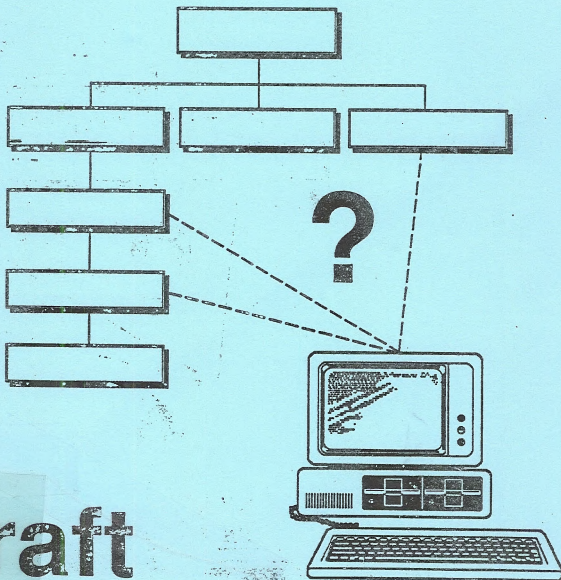


Washington Office

August 1989

# IRM Organization Study

*Impacts of Automation/Modernization  
on States, Districts, and Resource Areas*



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Impacts of Automation  
on States, Districts, and Resource Areas

August 1983

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# IRM Organization Study

*Impacts of Automation/Modernization  
on States, Districts, and Resource Areas*

August 1989

Prepared for the Director,  
Bureau of Land Management, Washington, D.C.

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## Executive Summary

### Introduction

#### Background

The Bureau of Land Management has embarked on a major modernization effort to automate our lands and minerals, cadastral, resources, and administrative records and data. Collectively, these records and data have been termed BLM's Information Resources. The lead for developing and delivering the target system hardware and software has been assigned to the Service Center (SC) with oversight and advice provided by the Field Committee (FC). While that effort is progressing, it has become increasingly apparent the Bureau must successfully position its organization and work force to manage Information Resources in both the interim period and long-term when the target system is operational in the 1990s.

In a report titled "Impacts of Modernization and Automation on the Bureau of Land Management," a subcommittee of the Field Committee identified a number of Bureau-wide problems related to delegation, accountability, communication, and organizational stability and recommended conducting a more specific study of the existing effects of automation and the effects that modernization will likely have on our Field Office organization structures. On the recommendation of the FC, the Director instructed the Assistant Director, Management Services, to conduct the study. The Headquarters Office Division of Management Research was given the assignment.

#### Study Objectives

The major objectives of this study were to:

1. Clarify the roles and relationships of all employees in IRM.
2. Identify the work to be done and the skills needed.

3. Develop recommendations on organizational structure in the Field Offices to best accomplish the Bureau's mission in an automated environment.

#### Study Approach

This study was done by a 13 member team under the direction of the Assistant Director, Management Services, with staff support from the Division of Management Research, WO840. The team was composed of employees from all three Field Offices levels and was lead by the Associate State Director from Idaho. Additional team members were selected to represent the Headquarters Office and the Service Center.

A Steering Committee was formed to provide advice and coordination for this study with the Bureau Management Team and the FC. Members of the Steering Committee included selected personnel from the subcommittee of the FC that recommended this study, two State Directors, a DSD for Administration, and the Service Center Director. Field interviews were conducted with employees in all State Offices and a representative sample of District and Resource Area offices in each state. Managers, program leaders, technical ADP personnel, and users of automation were interviewed. The issues, recommendations, and alternatives discussed in this report result from information gathered during the field interviews.

### Issues

#### Roles and Relationships

Successful management of the Bureau's information resources requires clear definition and consistent application of organizational functions and structures. Currently this is not the case. There is also little understanding or appreciation of the

roles and responsibilities needed to support IRM throughout the Bureau. As a result, IRM issues and functions are being treated in a disjointed and fragmented manner.

The study developed and verified a standard list of functions (work) to be accomplished by various position types, i.e., managers, technical ADF, program leaders, etc., at the Field office levels. It is recommended that this list be used for delineating organizational responsibilities and assigning accountability to positions through position descriptions and PIPRs.

### Communication and Leadership

Throughout most States, Districts, and Area Offices LIS/modernization programs are not well understood; and the perception exists that there is an absence of clear leadership from many line managers to direct or carry out these programs. Automation/modernization efforts are often seen in conflict with current work.

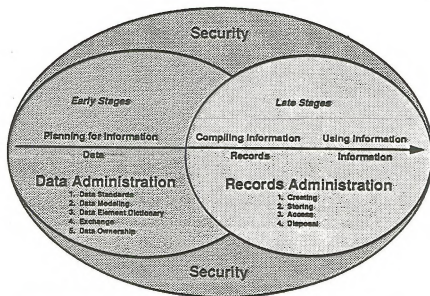
The Team recommends the Bureau promptly undertake a coordinated and well planned information sharing campaign through established Bureau information channels. This should include broad distribution of Bureau Information Bulletins and Instruction Memoranda, distribution of general information brochures, and use of such training/educational devices as "road shows," videotapes, and special seminars or local information sharing sessions. These efforts should be directed to all employees, not just those who appear to be most involved or most interested in automation and should be in familiar, non-technical language.

### Note to the Reader:

As the Team began analyzing Data Administration, Records Administration, and Security issues, it became clear there exists a very close relationship among these three elements in planning for and managing our information resources. The Data Administrator is heavily involved in the early planning stages by developing standards, a Data Element Dictionary, data modeling, exchange procedures, etc. It is not possible for the Data Administrator to properly plan for the data without knowing what the ultimate use of the data will be and who will be authorized to use it. Once the data is collected and entered into the system according to prescribed standards, it can be assimilated into a usable form; a record. The creation, maintenance, use and ultimate disposal of records is the second critical link in the management of information. The Records Administrator cannot design a useful electronic records management program without understanding and adhering to the principles of data administration. The third element to consider is Security. Security issues are considerations that must be made at every step in planning for and managing our information resources.

The following illustration graphically displays these relationships. The issues and recommendations concerning Data Administration and Records Management were developed with this relationship in mind.

Information Resources Management  
Data/Records/Security



## Data Administration

The roles and functions of Data Administration are not well understood, and this problem intensifies the lower one goes in the organization. It is clear that the issue is not only the Data Administration functions and *where* Data Administration belongs in the organization, but also *how* it relates to the Records Administration and Security functions; whether they should be together or apart organizationally; and the organizational placement needed to ensure that the functions operate effectively.

The Team recommends that each Field Office establish a Data Administrator position with the functions clearly defined. This position may be full-time or a collateral duty depending upon local circumstances. The Team further recommends that the Data Administrator, Records Administrator, and Security functions be placed in the same organizational unit and may in some instances be the same position.

## Records Management (Administration)

The automation of records creates a totally new dimension to the way the Bureau will conduct business. There is a need to define the new responsibilities of records management/administration to meet the demands of automation, to move our records program into BLM's automation/modernization era and to establish the relationship between records, data administration, and security.

The management of electronic records is a new frontier, not only to BLM but all Federal agencies. The technological advancements in records creation, use, storage, and disposal are demanding that BLM employ a comprehensive records program. Functions include responsibility for policy and guidance across the entire spectrum of records management/administration.

It may be difficult for existing Records Managers to make the transition to the new Records Administrator's role without extensive training, education, and skills development. We must begin planning now for necessary training or recruitment for the management and analytical skills needed to develop program policy and direction for the management of our records, information, and data.

The Team recommends that each Field Office establish a Records Administrator position with clearly defined functions. This position may be full-time or a collateral duty depending upon local circumstances. The Team further recommends that the Records Administration, Data Administration, and Security functions be placed in the same organizational

unit and may be collateral duty positions in some offices.  
E.Role of Coordinators

**Problem Statement.** The role of the various IRM related coordinators has become clouded with the evolution of automated systems, needs, and time. A major concern of managers, throughout BLM, is the proliferation of "coordinators." The question that surfaces is whether the existing coordinators are still needed; and if so, for how long.

Presently, the Bureau recognizes a number of IRM related coordinators. They include LIS, GIS, GCDB, ALMRS, ARD, and various others. The Study Team found that these individuals have, in many cases, migrated to non-coordination, operational roles. They have become the operational part of the effort rather than performing the coordination functions.

The Team recommends that all coordinators' positions except the LIS coordinator be examined to determine the functions they are performing. In instances where coordinators have assumed operational responsibilities the positions should be retitled to accurately reflect the work being done. The retitled positions should be placed within the existing organizational structure following established lines of authority.

## LIS Coordination

LIS related functions are presently spread throughout the organization. The LIS component (ALMRS, GCDB, ARD) leaders and other affected parties in the LIS are not always communicating effectively with each other. Information about the LIS activities taking place in the various locations must be gathered and conveyed to managers, employees, other agencies, and the public.

The LIS coordinator is the closest thing the BLM has to a "true coordinator" at this time. It is primarily one of advocacy, communication, and education. There are little if any operational responsibilities presently associated with the LIS coordination role. Unlike other "coordinator" positions, the LIS coordinator will likely be needed for the long term. As the LIS continues to grow in visibility and importance, the LIS coordination role will increase substantially.

The Team recommends the Bureau institutionalize the LIS coordinator as a true system "coordinator" position with responsibilities for coordinating the budget, training, policy and guidance, planning, user support and evaluation needs of LIS. Each State Office, District and Resource Area Office should identify a position to serve as the LIS coordinator. Depending upon local circumstances, the LIS coordinator may be a full-time or collateral duty position.



### *ADP User Support (Technical Services/ Applications Assistance)*

One of the most frequently mentioned frustrations encountered at all levels of the Bureau is the difficulty ADP user have in obtaining prompt, competent, basic technical ADP assistance. The problem is intensified by the fact that many field offices have few or no staff who are technically trained in ADP.

In this study two types of user support are defined: Technical Services and Applications Assistance. In its broadest interpretation technical services includes: all types of installation, operation, troubleshooting, maintenance, and repair of hardware, software, and communications equipment, systems design and configuration management and programming. Applications assistance includes: developing applications using standard approved software, data entry, and processing data and answering user's questions about specific applications. Technical services support is typically provided by a technical ADP person and application assistance by program leaders.

The overriding Team recommendation is that on-site technical service and applications assistance support be provided at all offices. This is clearly an important issue now, and will become more important as we move toward the implementation of the target system. User acceptance of automated systems and the development of a computer literate work force is essential for the Bureau's future. Bureau managers must take action by providing both types of capable and responsive on-site user support.

### *Quality Control*

Automated systems, unlike manual systems, will not function unless quality standards are met for data, configuration of hardware and software, and systems operation and documentation.

Given the vast quantity and unique complexity of BLM's data and the decentralized nature of BLM's authority to many offices, there must be a special effort to establish and assure the discipline necessary to adhere to quality control policies and procedures.

The Team recommends that an effective quality assurance program be developed and implemented that clearly assigns quality control responsibilities throughout the Bureau.

### *Classification and Other Personnel Actions*

Functions for automation must be incorporated into the Bureau's Personnel system including functional statements, position descriptions, vacancy announcements, KSAs, and PIPRs. Many of these functions relate to classification, particularly for new technical IRM/ADP positions. The Bureau must develop a strategy to resolve the problems around the impact of the modernization on position classification and other personnel actions.

The Team recommends that model personnel documents such as position descriptions and evaluation statements be developed. These documents should be used to establish positions and to ensure consistency in our classifications, recruitment and skills identification requirements.

### *Skills Acquisition*

This study identifies the work/functions needed for automation/modernization in BLM. The strategy for acquiring the skills needed to perform these functions has yet to be developed.

The Team recommends Bureauwide integrated strategy for acquiring needed automation related skills. This strategy should include training, contracting, and recruitment.

### *Mapping Science*

Mapping science will have an increasingly important role in resource management as LIS and modernization develops. Currently, the mapping science functions are highly fragmented. The automation of these functions provides the opportunity to more readily integrate them to provide a higher level of support. This also is an area where some efficiencies can occur by consolidating staffs, cross training, better utilization of equipment, space, more timely products outputs, etc. There are some advantages in external working relationships (e.g. USGS) by developing a mapping science focus Bureauwide.

The study team recommends each State Office evaluate its current organization and potential work load, and develop a plan for incorporating the appropriate functions into a mapping science unit.

## IRM Organizational Alternatives

Clarification of IRM functions will go a long way toward solving the issues presented in this report. However, one primary issue confronting the study team was, "How can the Bureau be best organized to use IRM tools to assist in its resource management mission?" The variety of answers to this question is evidenced by the variety of IRM organizational arrangements existing in field offices. Some states have or propose to centralize IRM functions while others have distributed IRM related responsibilities among existing organizational units at the State, District, and Resource Area levels.

During this study strong feelings were expressed about centralization and the potential for a Division of IRM. Those in opposition often cited the possible overallocation of resources away from on-the-ground resource management and the potential that a separate IRM organization would become too isolated from the people it serves to be responsive to their needs. There was recognition of the potential for gained efficiency, standardization, and improved coordination when all LIS/IRM responsibilities are centralized.

The Team recommends the following organizational structure for IRM in the field offices:

### *Within the State Office:*

- Maintain the primary components of the existing organization structure.
- Place IRM technical responsibilities as defined in the "Role and Responsibilities" of Chapter II, A within an IRM Branch in the Division of Administration.
- LIS Coordination, Records, Security, and Data Administration functions would be assigned to a staff reporting directly to the DSD Administration.
- The LIS Coordinator would develop policy and guidance for integrating ALMRs, GCDB, and ARD into LIS.
- The IRM Branch would provide technical user support throughout the State Office.
- Technical services support as defined in Chapter II, G, would be provided by Computer Assistants located within user Divisions as demand dictates.
- Policy and procedural guidance for GIS would be provided by the IRM Branch.

- Operational aspects of existing systems such as ALMRS, GIS, and GCDB would be located out of IRM and with the primary users of the system.

### *Within the District Office:*

- Maintain the primary components of the existing organizational structure.
- Place IRM technical responsibilities as defined in the "Roles and Responsibilities" Chapter II A, and LIS Coordination within an IRM Branch in the Division of Administration, or in smaller Districts without an IRM Branch, in a staff reporting to the ADM for Administration.
- Records, Security, and Data Administration functions would be combined to the degree possible and would report to the ADM Administration.
- The IRM Branch or staff would provide technical user support throughout the District office.
- User assistance as defined in Chapter II G, would be provided by Computer Assistants located within other Divisions as demand dictates.
- LIS Coordination would be provided by the IRM Branch or staff.
- Operational aspects of existing systems such as ALMRS and GCDB would be in existing Divisions and located as close as possible to system users.

### *Within the Resource Area:*

- The demand for computer skills will depend on the amount of IRM activity, number of employees, amount of hardware/software, applications, etc. As appropriate, an IRM person/staff would report to the Resource Area administrative staff leader or the Area Manager.
- The Resource Area IRM staff would perform collateral duty in LIS coordination, operational aspects of GIS and user support.
- Operational aspects of ALMRS and application assistance would be accomplished in the Resource Area by resource specialists.

The rationale for the recommended alternative is based on the

following concepts. Based on past experience, there is a need to strengthen, consolidate, standardize and incorporate many of the new IRM functions into a more centralized structure. This would include the policy and guidance functions of data, records, security, and the coordination functions of LIS and would strengthen the ability to provide both technical and applications support to users. It would also significantly strengthen and make more visible the overall IRM functions as they relate to the traditional BLM mission.

The Team feels this alternative presents a significant and logical step given the current circumstances. Current circumstances include the Bureau's budget and how much should be allocated for IRM functions and the magnitude of organizational change. A significant amount of the current budget is already going toward the operation and maintenance of IRM. According to the most definitive analysis (IM 89-285), the total IRM cost for just IRM personnel Bureauwide is \$40 million. The recommended alternative meets the functional objectives yet avoids the substantial costs of creating large new organizational units.

The Team also believes there needs to be a realistic view of the future and the need to take an evolutionary approach. The estimates of what the target system will look like, its performance capability, how much we can afford to buy, where it will be placed, implementation schedule, etc. keep changing. As the target system becomes clearer, functions and structure may change; but for now, the recommended alternative is considered a significant step forward but avoids a giant lurch — perhaps backwards.

The current attitude of Bureau employees is another consideration. It is not so much that people at the field level are against automation-modernization, but because of their motivation to get things done. They get upset when they perceive funds going toward something they either don't understand or don't want to understand. The point is, there are strong, pervasive attitudes which will be impacted by organizational changes. Depending on the magnitude of change and how people perceive they will be impacted, there may be either positive or negative reaction.

The recommended alternative will produce the desired functional results, make needed organizational shifts without major adverse impacts on the budget, is within the decentralized context of the existing structure, will reduce negative reactions and will help the field employees understand and accept how IRM relates to their getting things done.

Some argue that IRM needs high visibility organizationally because it is so important to BLM's outside image. The Team feels this is a misconception. IRM is a term which relates to the

importance of BLM internally managing its information resources. As such, it is everyone's business, but IRM is not an image builder. LIS which produces visible outputs and services is an image builder. This is the concept the Bureau should pursue. The recommended alternative incorporates this idea.

## Other Issues That Go Beyond the Scope of the Study

While doing the field interviews, two issues were raised by field offices that are not within the scope of this study. These issues are presented here without analysis for information purposes only.

### *Three-Tiered Field Office Organizations*

Employees raised questions about changing the current three-tiered field organization. Some employees believe the organization could be flatter and more efficient. A study of this issue was completed in 1981 concluding that the 3-tier structure was still viable. Automation will in doubt continue to impact the organization. However, automation is only one of many factors which should influence a decision to change the 3-tier structure. These factors were outside the scope of this study.

### *Automation - Modernization vs. Budget*

Many employees in the field offices are concerned about the large costs for automation/modernization that the Bureau is planning. This is of particular concern since most field level funding is coming out of base program dollars. The priority for implementation is also important to field level managers and program specialists who would like to see the priorities developed from the bottom up.

# I. Introduction

## Background

The Bureau of Land Management has embarked on a major modernization effort to automate the lands and minerals, cadastral, resources, and administrative records and data. Collectively, these records and data have been termed BLMs' Information Resources. The lead for developing and delivering the target system hardware and software has been assigned to the Service Center (SC) with oversight and advice provided by the Field Committee (FC). While that effort is progressing, it has become increasingly apparent the Bureau must successfully position its organization and workforce to manage Information Resources in both the interim period and long-term when the target system is operational in the 1990s.

Automation has already had a major impact brought on by the proliferation of hardware and applications in Field Offices, (State Office, District Office, and Resource Areas). In some instances new organizations have been established or are proposed to meet the needs of these Offices as they relate to Information Resources Management (IRM). There are wide variations in approach, placement of IRM, and functions assigned at each level. This has been recognized by the Bureau Management Team (BMT), and the Field Committee. In a report titled "Impacts of Modernization and Automation on the Bureau of Land Management", a subcommittee of the Field Committee identified a number of Bureauwide problems related to delegation, accountability, communication, and organizational stability and recommended conducting a more specific study of the existing effects of automation and the effects that modernization will likely have on our Field Office organization structures. On the recommendation of the Field Committee, the Director instructed the Assistant Director, Management Services to conduct the study. The Headquarters Office Division of Management Research was given the assignment. Instruction Memorandum No. 89-59, dated October 25, 1988 announced the beginning of this study, the content of which is summarized below:

## Study Objectives

- A. Clarify the roles of line managers, program leads/specialists, and technical ADP people in automation at the three Field Office levels to support the Bureau mission.
- B. Identify the automation functions (work), to be performed at each field organization level.
- C. Identify the automation related skills needed at each Field Office level to get the work done.
- D. Develop recommended and alternative organization structures related to automation needs for each Field Office level.
- E. Develop recommendations on how to acquire needed automation skills.
- F. Recommend steps to develop position descriptions, classification and identify skill types.

## Scope of the Study

This Bureauwide study focused on automation related functions and organizational issues at the State Office, District Office and Resource Area levels.

## Assumptions and Sensitivities

The following assumptions were made at the beginning of this study:

- A. Current delegations of authority to State Directors regarding organization will not change.



- B. This study will recognize there are variations in size, workload, and organizational structure between and among the different Field Offices.
- C. This study will recognize that different levels of awareness, computer literacy, and hardware/software capability exist throughout the Field Offices.
- D. The pressure will increase for the Bureau to successfully develop and implement the Target System:
  - Congressional interest
  - OMB oversight
  - Need for organizational understanding and stability
- E. Momentum for automation and organizational change to accommodate automation will continue to increase regardless of any studies.
- F. The Target System will be basically distributed with the capability to process information at each Field Office location.
- G. The Bureau will evolve through interim and into the Target System. Recommendations in this study will be based on what is currently known and done and by projecting future needs.
- H. The basic three tiered Field Office structure will not be addressed in this study.
- I. The Bureau will continue to utilize a variety of mechanisms to get needed skills including in-house cross training. No major dislocation of existing employees will occur because of automation.
- J. Beyond increases associated with the current ALMRS strategy, there will be no major increase in funds/FTE to meet staffing needs specifically for automation. However, staffing will continue to increase for automation work based on specific program needs.
- K. Automation is a tool to be used by resource managers to achieve the basic Bureau mission of resource management.
- L. Information Services will be directed by line managers with staff support based on resource needs.
- M. Automation includes all systems: ALMRS, GCDB, GIS, ARD, administrative applications, telecommunications etc.

- N. There is no predetermined conclusion about a single RIGHT organization structure for IRM in Field Offices.

## Study Approach

This study was done by a thirteen member team under the direction of the Assistant Director, Management Services with staff support from the Division of Management Research, WO-840. The team was composed of employees from all three Field Office levels and was lead by the Associate State Director from Idaho. Additional team members were selected to represent the Headquarters Office and the Service Center. Team members are listed in Appendix A.

A steering committee was formed to provide advice and coordination for this study with the Bureau Management Team and the Field Committee. Members of the steering committee included selected personnel from the subcommittee of the Field Committee that recommended this study, two State Directors, a DSD for Administration, and the Service Center Director. Members of the steering committee are listed in Appendix A.

## Methodology

The study was conducted in three major phases:

- Scoping and Preplanning
- Information Gathering
- Analysis and Report Writing

During the Scoping and Preplanning phase, the team preliminarily identified the issues to be addressed in the study, formulated a study plan, identified information needs and designed a method to gather the data for the report.

A thorough review of past analyses and actions taken by the various Field Offices, the Service Center, IRMAC, The Hoffman Subcommittee of the Field Committee, Information Resources Management Reviews (IRMRs) and other agencies regarding their IRM functions and organizations was done by the team. From that effort came the first indication that the issues discussed in this report are real issues that the Bureau needs to resolve.

With a preliminary list of issues in mind the team then developed an instrument for gathering necessary information and devised a strategy to gather the information in the Field Offices. A field interview guide was developed and tested in Oregon during the week of February 27, 1989. The interview guide was then revised as necessary and finalized for use in the



remaining states. One key component of the interview guide was a listing of IRM related functions with responsibility for performing those functions assigned to various position types in the Field Offices, (ie Program Leader, Technical IRM, Management, Records Mgr. etc.). By using this approach, the team was able to verify the findings of previous analyses regarding the IRM related functions and who is or should be primarily responsible for performing them.

The second phase of the study, Information Gathering, was begun by conducting personal interviews at selected field locations. Each State Director was asked to identify offices within his jurisdiction for the team to visit. Initially, six State Offices; Alaska, Wyoming, New Mexico, Eastern States, Idaho, and Arizona, were visited along with a representative sample of District Offices, plus attached and detached Resource Areas in each state. Interview teams, made up of two people from the study team visited the selected offices. Employees in each office were interviewed in separate small groups composed of program leaders, technical IRM personnel, knowledgeable users, and management. State Directors and District Managers were interviewed individually when possible. Each interview team used the standard interview guide developed by the study team to gather its information. Upon completion of these visits, the team reconvened in Salt Lake City during the week of April 10, 1989 to analyze its findings and develop preliminary recommendations including organizational charts. At that time the team also met with and discussed its progress with the Steering Committee.

Following the team meeting in Salt Lake City, the remaining states; Colorado, Utah, California, Nevada and Montana were visited. The same categories of people were interviewed as in the first group of states, however a slightly different information gathering technique, "modified nominal group," was employed. Using this technique the interview teams were able to independently verify the existence of the issues discussed in this report. In addition, these groups were also asked to comment on the teams' grouping of IRM related functions with position types and the preliminary organization charts developed by the study team at the Salt Lake City Meeting.

To complete the third phase of the study, Analysis and Report Writing, the team met in Boise, Idaho during the week of June 19, 1989. At that meeting the team analyzed the information collected, developed draft findings and recommendations, and wrote this draft report. The results of the study were presented in draft form to the Steering Committee on June 28, 1989.

It should be noted that throughout the course of the team's field visits, several issues were identified that are beyond the scope of this study. Those issues are presented in the Executive Summary for information purposes but are not analyzed.

## II. Issues

### A. Roles and Relationships

#### *Problem Statement*

Successful management of the Bureau's information resources requires clear definition and consistent application of organizational functions and structures. Currently this is not the case. Information Resource Management functions presently reside at all levels of the organization - whether it is operating a computer, programming, providing user support, data input, or training. However, these and many other IRM functions are not being done in a consistent manner; and the responsibility for some IRM functions is not always being accepted. There are also wide differences in the understanding and appreciation for the roles and responsibilities needed to support IRM throughout the Bureau. As a result, IRM issues and functions are being treated in a disjointed and fragmented manner.

#### *Discussion*

Because it was unclear what the various roles and functions related to IRM were and because many of these roles tend to blur and overlap, the team attempted to develop a standard list of roles and relationships (listed in the matrix below.) The resulting list was then tested by each group interviewed. They were asked to verify if the categories were correct, if the initial placement of the various functions was correct and if additional roles should be added.

The results for the most part, supported the list developed by the team. Many functions were identified that need to be accomplished at all levels, such as training, needs identification and user support. Some discrepancies were noted between where functions should be performed and where they are currently being performed. For instance, ADP personnel have the primary responsibility for user support on hardware and software, but in fact, when a pc goes down or needs work, a "local expert" is usually asked to help and technical ADP personnel are called only if the local program leader or staffer fails to correct the problem.

Some functions, for example, quality control, fall under several headings, i.e., xProgram Leaders, IRM Technical Personnel and Management. Virtually all the functions of Program Leaders, Managers, Records Managers and Users are similar regardless of the organizational level. However, efficiencies dictate that certain functions such as those under data admini-

stration, configuration management, etc. be performed at higher organizational levels rather than throughout the whole organization.

### Recommendation

It is critical that the Bureau standardize IRM functions and incorporate these functions into the regular duties of specific categories of positions at each organizational level. The Roles and Relationship matrix should be used as a source for delineating organizational responsibilities and for developing position descriptions and PIPRs at each of the field levels. Once these elements are in place, those assigned the work **MUST** be held accountable and given the necessary support to carry out

their duties.

### Roles and Relationship Matrix

The following functions are related to various aspects of Information Resource Management. These functions have been grouped into positions responsible for performing the work and the level in the organization where the work is accomplished:

Position/Function	State Office	District Office w/Mini	Resource Area w/Mini
<b>Program Leader</b>			
training (application specific)	X	X	X
user support (application specific)	X	X	X
budget development and tracking	X	X	X
establish quality control standards	X	X	
perform quality control	X	X	
program guidance	X	X	X
develop data standards	X	X	
monitor standards adherence	X	X	X
maintain data integrity	X	X	X
prepare functional requirements	X	X	X
contract administration (data collection/entry)	X	X	X
prepare and maintain user handbooks	X	X	X
evaluate use and effectiveness (app. spec)	X	X	X
project planning and execution	X	X	X
data access compliance	X	X	X
identify automation needs	X	X	X
<b>Technical IRM People</b>			
maintain operating system software	X		
maintain equipment operations	X	X	X
equipment installation and maintenance	X	X	X
user support/assistance	X	X	X
library/disk management (minicomputers)	X	X	X
training (minis and mainframe)	X	X	
integration and coordination of data bases	X	X	
maintain data base management system (DBMS)	X		



Position/Function	State Office	District Office w/Minl	Resource Area w/Minl
<b>Technical IRM People (Continued)</b>			
data base design	X		
develop data base documentation standards	X		
configuration management	X		
system analysis	X		
HW/SW use management	X	X	X
programming specific applications	X		
coordination among prog.syst. and applications	X		
write technical specifications	X		
test/accept HW/SW	X		
monitor contract performance (HW/SW procurement or maintenance)	X	X	X
integrate applications comprising a system	X		
data security and backup	X	X	X
SW licensing	X		
safety/disaster plan/security awareness	X	X	X
life cycle management	X	X	X
procurement planning	X	X	X
telecom system administration	X	X	
quality control for: (systems, documentation)	X		
recommend ADP components of IRM strategy	X		
data input/digitizing	X	X	X
contingency of operations planning	X	X	X
<b>Management</b>			
operating policy	X	X	X
resource allocation (\$, people, space)	X	X	X
long/short range planning	X	X	X
priority setting	X	X	X
advocacy/leadership	X	X	X
quality control management (IRM'S)	X	X	X
review/approve automation needs and IRM strategy	X	X	X
ensure standards and policy adherence	X	X	X
<b>Records Administrator</b>			
develop records operating policy	X		
develop procedures and standards for: (records creation, storage, disposal)	X	X	
coordinate with archives	X		
identify records automation needs	X	X	X

Position/Function	State Office	District Office w/Mini	Resource Area w/Mini
<b>Records Manager (Continued)</b>			
monitor standards adherence	X	X	X
evaluate use and effectiveness of records systems	X	X	
information classification (sensitive info.)	X		
perform quality control on records mgmt.	X	X	
<b>Users</b>			
equipment operation	X	X	X
microcomputer disk management and library	X	X	X
identify automation needs	X	X	X
prepare program requirements	X	X	
request/purchase approved software	X	X	
data collection, entry and backup	X	X	X
records creation, maintenance, disposal	X	X	X
quality assurance data and records	X	X	X
<b>Data Administrator</b>			
develop/implement data standards	X	X	
identify data ownership	X	X	X
data security procedures	X	X	
develop data exchange procedures	X		
implement cost recovery policy	X		
enforce data modeling	X		
DED administration	X		
enforce quality control standards	X	X	X
<b>LIS Coordinator</b>			
develop/maintain communications	X	X	X
coordinate LIS components	X	X	
perform outreach/inreach	X	X	



## B. Communication and Leadership

### *Problem Statement*

Throughout most State, District, and Area offices, the Bureau's LIS/modernization efforts are not well understood and the perception exists that there is an absence of clear leadership from many line managers to direct or carry out these efforts. Many employees view automation/modernization efforts as being in conflict with on-the-ground work.

### *Discussion*

Because of automation, the Bureau is going through a period of prolonged and significant change that will affect the way we do business and effect the character of the Bureau culture. Bureau employees are being expected to learn to do their work with tools that are largely unfamiliar to many. Change at this order of magnitude is difficult and without the right kind of communication and leadership modernization will be difficult to implement.

It was not unusual during the field office visits to hear frustrations expressed in terms of not being informed, not being involved, or not seeing clear leadership for the modernization effort. The extent to which these themes repeatedly came forth from the majority of offices visited was surprising. The dominant themes were consistent and clear:

- There is a perceived lack of leadership, vision and commitment from key Bureau management officials for the Bureau's automation efforts.
- There is an insufficient quantity of well distributed, *non-technical* information being passed down to the field level offices. There is a noticeable lack of understanding of what is occurring at the Service Center and that is causing perceptions that field personnel are not involved in automation development, that systems are being developed that do not meet field needs, and that no one appears to know who is or will be in charge of where we are headed as a Bureau.

The Bureau has committed substantial resources from our funding over the past few years toward automation and modernization. This is evidenced by the great amount of activity being carried out at the Service Center and by the attention given to modernization by the Field Committee and its various subcommittees.

Much of the financial and personnel resources committed thus

far have gone into the development effort at the Service Center. This has created its own set of problems in the view of field offices. The Field Offices believe this allocation of positions and funding to the SC reduces on-the-ground capabilities to accomplish BLM's primary mission of resource management.

The Bureau has also undertaken outreach efforts to involve and educate people outside the agency about our modernization and LIS activities. Substantial effort has been made to keep the Department, GSA, OMB, and Congress apprised. However, our internal education efforts have been insufficient. In fact, the field office visits often concluded by the interviewees stating the information exchanged through the interview process was the most they had ever received.

Some offices are better versed than others on modernization issues. It is also evident that some managers have recently initiated efforts to lead and manage to automation (attendance at Automation for Managers and Translators course has helped), but much of this effort is not yet visible to field level employees. The strongest sentiment expressed by some field employees is that key managers at various levels of the organization are not visibly leading the automation effort, do not understand that such leadership is necessary or don't personally have a commitment to automation.

### *Recommendations*

1. Promptly undertake a coordinated and well planned information sharing campaign through established Bureau information channels. This should include broad distribution of Bureau Information Bulletins and Instruction Memoranda, distribution of general information brochures, and use of such training/educational devices as "road shows", videotapes, and special seminars or local information sharing sessions. These efforts should be directed to all employees, not just those who appear to be most involved or most interested in automation and should be in familiar, non-technical language. Employees need to understand the development processes, the plans that guide us, how automation will affect their jobs, and the vision for the future. This effort should be clearly defined in the Master Plan that is currently being developed and followed by specific Operational Plans developed by each State. Specific follow up in FY 1990 AWP of the recently conducted training needs analysis is essential.
2. Key program leaders and line managers from the State Offices, District Offices, and Area Offices must become knowledgeable about LIS/automation. They must provide an environment in their programs and offices in which an understanding and acceptance of automation is



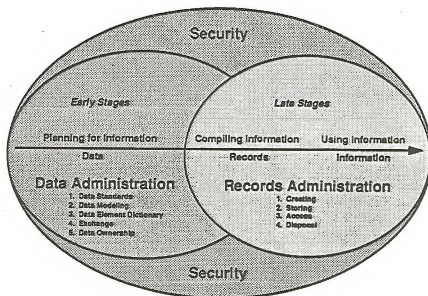
fostered and its use is required.

3. State Directors, Associate State Directors, District Managers and Area Managers in particular, must provide visible leadership, involvement, and commitment to automation by personally demonstrating its use in order to facilitate the cultural change that must occur.
4. The roles and relationships identified for managers and program leaders in Section A (matrix) of this chapter should be adopted and included in functional statements, position descriptions and PIPRs as appropriate.
5. The Bureau must recognize that many Bureau managers are being faced with new and unfamiliar management demands, (e.g. managing rapidly changing technology, highly technical programs and people with a professional background much different than their own). Careful consideration should be given to providing managers a way to enhance their skills in this area. Perhaps the greatest challenge for BLM managers and supervisors is the willingness to accept and practice the collective discipline required to manage standardized data, configurations, quality control, life cycles and security.

### Note to the Reader:

As the team began analyzing Data Administration, Records Management, and Security issues, it became clear there exists a very close relationship among these three elements in planning for and managing our information resources. The Data Administrator is heavily involved in the early planning stages by developing standards, a Data Element Dictionary, data modeling, exchange procedures etc. It is not possible for the Data Administrator to properly plan for the data without knowing what the ultimate use of the data will be and who will be authorized to use it. Once the data is collected and entered into the system according to prescribed standards, it can be assimilated into a useable form; a record. The creation, maintenance, use, and ultimate disposal of records is the second critical link in the management of information. The records Manager cannot design a useful electronic records management program without understanding and adhering to the principles of data administration. The third element to consider is Security. Security issues are considerations that must be made at every step in planning for and managing our information resources. A chart depicting the relationship among the three elements is shown below. The issues and recommendations concerning Data Administration and Records Management were developed with this relationship in mind.

### Information Resources Management Data/Records/Security



## C. Data Administration

### *Problem Statement*

The role and functions of Data Administration are not well understood and this problem intensifies the lower one goes in the organization. It is clear that the issue is not only the Data Administration functions and *where* Data Administration belongs in the organization, but also *how* it relates to the Records Management and Security functions; whether they should be together or apart organizationally; and the organizational placement needed to ensure that the functions operate effectively. The team also found that at this point there is little understanding or appreciation in the field offices for the amount of discipline and adherence to established standards each Bureau employee and office will need to build, maintain and use a bureauwide information system.

### *Discussion*

Data Administration is described in the draft manual titled "Data Administration: State Office Data Administrator Duties" as: A Data Management function responsible for developing and implementing policies, guidelines and standards for the definition, collection, organization, correction, storage, protection, processing and efficient use of data and information within the Bureau of Land Management.

State Offices currently use both full time and collateral duty Data Administrators. The function is generally viewed as a coordination and facilitator role at all field levels with no operational responsibility. Many perceive data administration functions to be closely aligned with both users and program leaders.

To date, the primary focus of Data Administration has been on data standards development. Although this current effort is nearly 2 years old, the effort to define the scope and process of data standardization has been struggling. Part of the problem is that data standards cross organizational, program and even agency lines causing very difficult coordination problems.

Much of the Bureau's perception of data administration has been shaped by private industry. This corporate model of Data Administration does not fully meet the Bureau's needs because it fails to consider the diversity of local conditions and the decentralized nature of BLM's organization and delegations, and the laws and regulations governing BLM's official records. This perception also helps feed the misconceptions concerning automated records.

With automation, the need for quality control, standards adher-

ence, and enforcement has greatly expanded. It is clear that the Records Manager, Data Administrator, and Security Officer, all have distinct but related responsibilities in providing oversight and guidance for the management of BLM information resources. The Records Manager must have authority similar to that of the Data Administrator in order to ensure that externally imposed legal requirements for records creation, maintenance, and retention/disposal are met. The responsibilities of the Data Administrator are different, in that they pertain to individual data elements as opposed to a record which is a collection of data elements.

Success of the Data Administration function depends upon consistent application of data management standards and discipline throughout the Bureau organization to adhere to those standards. Regardless of where the Data Administration function is located, it must receive informed, visible support and clear direction from top management.

### *Alternatives*

The alternatives and recommendations developed here are done so with the belief that neither the study team or the Bureau can fully comprehend or predict many of the future issues we must deal with as we automate our information. As we evolve into an automated information system, the organizational issues related to Data Administration and Records Management should be revisited on a frequent and regular basis.

#### *Alternative I*

At the State Office level, place the Data Administrator reporting to the Associate State Director. At this level the Data Administrator would have the ability to cross Division lines and have the authority to enforce the standards fairly and without question. The Data Administrator could interface and coordinate with the records management function through the DSD with responsibility for IRM. Under this alternative the team believes that further structuring below the State level should be left up to the individual State, dependent upon the level of activity within a District and the effectiveness of the State Data Administrator. Data Administration and Records Management functions are necessary at all offices below the State Office. District and Resource Area offices may wish to consider placing both functions with the same position.

#### *Advantages:*

- This alignment would provide more visibility for the Data Administrator and possibly more clout to the discipline

and enforcement part of the job.

- It would help the Data Administrator to become the moderator in situations where disagreement arose between other organizational entities during the development of standards and standards enforcement.
- It would help ensure against the Data Administration function aligning itself toward the organizational unit in which it was placed.
- This alternative would provide for uniform placement of Data Administration functions throughout the State Offices without changing the rest of the organization.

### *Disadvantages:*

- There could be a perception that Data Administration was too powerful and too far removed from the users and resources it serves. The function over time could become self serving.
- This alignment would increase the span of control for the Associate State Director.
- With the Data Administrator reporting directly to the ASD, there is a strong possibility that decisions could be made regarding data administration without having the benefit of discussion by the remainder of the management team.
- This alignment would not provide a direct tie between Records Management and Data Administration.

### *Alternative 2*

At the State Office, place the Data Administration function with Records Management and Security in a branch or staff within the Division that is responsible for IRM but separate from the technical ADP people. At the District and Resource Area levels the individual states would determine their organizational needs related to data administration, records and security. District and Resource Areas may wish to consider combining these functions into the same position.

### *Advantages:*

- Would utilize the existing organization structure and provide, through the Deputy, a voice on the Management Team to allow some measure of mediation between most

of the serviced organizations.

- May reduce the perception that data administration responds only to the ASD.
- Would provide an immediate and direct organizational tie between the Records Management, Security, and Data Administration functions.

### *Disadvantages:*

- The ability to exercise the enforcement responsibilities of Data Administration could be influenced by the Deputy responsible for IRM. There is some concern that this alignment would add an unnecessary layer of supervision to go through in the Data Administration process.
- Placement with responsibilities for security in the same Division as IRM may not encourage objective oversight and evaluation of security practices. Regulations require security to be placed outside the IRM organization.

### *Alternative 3*

In the State Office place the Data Administration function, by itself, reporting to the Deputy responsible for IRM. Records Management and security would be placed in a branch within the IRM organization.

### *Advantages:*

- Would provide added emphasis to the Data Administration function by itself.
- Would have the same advantages as those listed for Alternative 2.

### *Disadvantages:*

- Would not insure good coordination between data administration and records management and security.
- Would have the same disadvantages as those listed for Alternative 2.

### *District and Resource Area Alternative:*

The Team concluded that organizational placement of data

administration functions at levels below the State Office for most states is not a burning issue now. It is important to now place the functions with an enthused and informed individual. At both District and Resource Area levels full-time Data Administrators may not be required now. However the effectiveness of collateral duty positions will be directly related to the commitment made by local management to data administration.

### ***Recommendation***

The Roles and Relationships for Data Administration, defined in Section A of this chapter, should be adopted and included into functional statements, position descriptions, and PIPRs as appropriate.

Establish a management staff reporting to the Deputy State Director responsible for IRM. Duties of this staff would include Data Administration, Records Management, and Security. The success or failure of automation in BLM is dependent upon effective operation of these functions. Data Administration education is needed at all levels in the Bureau. For it to be effective, it must receive the direct support and guidance of the State Management Team.

Each District Office should designate a Data Administrator although the workload may not warrant the establishment of a full time position. Districts and Resource areas may wish to consider combining the Data Administration functions and the Records Management functions into the same position.

## **D. Records Management (Administration)**

### ***Problem Statement***

The automation of records creates a totally new dimension to the way the Bureau will conduct business. There is a need to define the new responsibilities of records management/administration to meet the demands of automation, to move our records program into BLM's automation/modernization era, and to establish the relationship between records, data administration and security.

### ***Discussion***

The management of electronic records is a new frontier, not

only to BLM but all Federal agencies. The technological advancements in records creation, use, storage and disposal are demanding that BLM employ a comprehensive records program. Functions include responsibility for policy and guidance across the entire spectrum of records management/administration.

The primary responsibilities and functions of the State Office Records Administrator (Management Analyst) will be to:

- Define points of records creation, establish standards for records, identify legal and historical records requirements including sensitive information determinations, oversee or conduct risk analysis to ensure Bureau interests are protected, and ensure audit trail requirements are adequately satisfied.
- Determine the appropriate media for records.
- Ensure safekeeping of active records.
- Ensure backup copies are maintained.
- Interpret the sensitive information laws and regulations as applicable to electronic records.
- Oversee management of a combination of paper and electronic records to ensure a complete historical file is maintained.
- Manage disposition of mixed media records.
- Understand the various media available and prepare cost/benefit analysis.
- Review application documentation and user guides to ensure all records concerns are adequately addressed.
- Understand and give guidance on the environmental requirements essential to protect records on film, tape, or disk. Also to give guidance on paper record restoration and preservation.
- Design and implement a strong quality control program to ensure records creation, maintenance, and disposition are being performed in accordance with the best interests of the Bureau.
- Provide technical assistance, guidance, and quality control of District and Resource Area records activities.

District and Resource Area Records Managers will be expected to carry out the policy and guidance established at the



Headquarters and State Office levels.

BLM's records management responsibilities have far reaching significance in that we deal with many historical and unique records, e. g. land title records, cadastral records. Valuable documentation of land use decisions and historical land records can become lost if the correct decisions are not made regarding records creation, use, maintenance, and disposal. Critical decisions must be made to ensure that records are created in a format that is acceptable in a court of law as well as meeting historical and preservation requirements. Other Federal agencies, in particular the National Archives and Records Administration, are counting on BLM to be actively involved in establishing Federal electronic record management policies.

Many new records management problems will face us in the future as we begin to deal with electronic backups, filing, authorized and unauthorized access and alteration. Electronic records management will require new skills, greater expertise, professionalism, discipline, and problem solving abilities than BLM has previously required for paper records management. Our field interviews confirmed that few offices have taken steps and have received little or no guidance to employ records management principles within the realm of the electronic media.

The study has clearly indicated that a comprehensive management program does not exist in the records arena at the State Office level and below that can meet the challenge of managing the blend of paper and electronic records that is now beginning to occur.

Prior to the State Office Organizational Study of 1981, BLM recognized the importance of records and information management with the responsibility of the entire records program lying within the Branch of Records and Data Management, Division of Management Services. The focus of the 1981 reorganization, related to records management, was to place the custodial care of a particular record with the responsible organizational unit, i.e., maintenance of lands and minerals title records became the responsibility of the Branch of Lands and Minerals Adjudication. This concept has worked well in the years since the reorganization.

The field visits did serve to confirm and reinforce the need for the decentralized custodial care and operational aspects of records use and maintenance, (the day to day operations). It was widely agreed that these operational duties are best accomplished by those in the organization responsible for the information in the records.

Today, the management of paper records is a well defined

technical function. BLM's current records managers at the State Office level are generally individuals responsible for the supervision of the library, central files, and mailroom. Up to this point, the records functions at the District Office/Resource Area level have been treated primarily as clerical.

BLM must work towards advancing our records management into an automation era. Records managers need to play an active role in the progression from a paper oriented office to a fully automated office environment. This includes the policy, guidance and oversight for all records systems, particularly those systems that are under the custodial care of other offices. The future will bring increasing decentralization of our records. More and more of our records will have to interface electronically, requiring standardization, data integrity, consistent records management procedures and the discipline to follow those procedures. This new approach might be termed "Research Administration" to parallel the same concept as "Data Administration."

BLM needs to have strong discipline, central oversight and guidance as techniques for electronic records management are developed and implemented. This responsibility will be far more complex, require a new set of skills, and probably new positions, in addition to those needed to perform the current paper records management responsibilities.

In defining the responsibilities of a records management/administration program, we must include not only data and records, but our data security needs as well. In reviewing the responsibilities outlined in the draft BLM Manual 1270 and the draft BLM Manual for Data Administration, many of the responsibilities correlate to the management of records and data as a valuable resource. This indicates that a close working relationship must be developed between the Records Administrator, the Data Administrator and the Security Officer.

It is important that we realize the time to take action is now as we are just beginning to establish records on media other than paper. Our risks are high if we do not acknowledge and implement a comprehensive electronic records management program.

### Alternatives

#### Alternative 1

At the State Office, establish a single Records Manager/Administrator position reporting to the DSD responsible for IRM. District/Resource Area offices would increase the responsibilities of the existing records personnel to ensure



compliance with records policies and guidance. The operational records activities would remain in the custodial care of the organizational units responsible for the records.

**Advantages:**

- Would bring records management into focus with IRM issues.
- Recognizes the need for management skills within the records system.
- Ensures that the program management, policy making and planning is not subordinated by the operational needs of records management.
- Would provide transition of records management to the target organization.

**Disadvantages:**

- Position may tend to focus only on IRM related issues rather than the entire records program. Placement in the IRM organization may prevent development of a working relationship with the Data Administrator if the data administrator position is not organizationally placed in IRM.
- A single position buried within an IRM organization may not provide the emphasis that would be necessary to implement a records management program.
- May require creation of a new position or commitment to extensive training to provide incumbents with the skills necessary to perform the management and analytical responsibilities required.

**Alternative 2**

Assign the records management responsibilities to the Data Administrator position at the State Office level regardless of location in the organization. Maintain the current organizational responsibilities for records use and maintenance. The position identified at the District level to implement data administration policies would also handle implementation of records management policies.

**Advantages:**

- The data administration program is receiving emphasis as

modernization approaches. Records management could take advantage of that emphasis.

- Many of the records functions are being identified by industry as data administration functions.
- Coordination of the Data Administration and Records Management functions would occur.

**Disadvantages:**

- In the short term, the data standardization process could overshadow the need for records management policy development.
- Records and information management may not receive the attention that is necessary to establish a comprehensive management program due to the emphasis being placed solely on data administration activities.
- Workload would eventually be too big for one position to handle effectively.

**Alternative 3**

At the State Office level, establish a management Branch or Staff for records, data administration, and security placed under the Deputy State Director that is responsible for IRM. This staff could also include the Statewide LIS coordination activities typically performed by one individual. The District Office would combine records management and data administration into a staff reporting directly to the District Manager or an Assistant DM responsible for IRM. A larger district may need an individual position for data administration and records management. It should be noted that this staff would remain outside of the IRM organization to ensure their integrity. Custodial care of records remains decentralized. State Office staff would include a full-time position to serve as the Records Manager/Administrator for policy and guidance..

**Advantages:**

- Placement at a management level would provide access to all programs that will be affected by modernization. Places records management on the same level with other functions necessary to implement our target system.
- Staff would be independent from the operational activities. Emphasis would be placed on the importance of records and data to the target system.

- Provides the interim momentum necessary to discipline ourselves for the target system.
- Emphasizes statewide oversight and management of records and data by placing them in one organizational unit.

### *Disadvantages:*

- There are no serious disadvantages for Records Management/Administration in this alternative.

### *Alternative 4*

At the State Office level, establish a Branch of Records and Data Administration, reporting to the Deputy State Director responsible for IRM, that includes all forms of records, security and data administration. All operational record functions would be included within the Branch. At the District Office level, establish a position, within the IRM organization, to administer the records and data administration policies.

### *Advantages:*

- Emphasizes statewide oversight and management of records, information, and data by combining them into one organizational unit.
- Provides for close coordination, consistent direction on all facets of records and data management.
- Ensures full utilization of the records and information available from all sources.

### *Disadvantages:*

- Branch may become too operational. Program management, policy development and planning would take a back seat to the day-to-day needs of the technical records.
- Custodial users would lose control over their record systems. Integrity of the data may be questioned.
- Focus of the Branch may be too closely tied to the traditional administrative recordkeeping, when in reality the records needing the most attention will be in areas outside of Administration, e.g., lands and minerals, resources, cadastral survey, etc.

## *Recommendation*

Establish a management staff placed under the direction of the Deputy State Director responsible for the IRM organization to that includes records and information management, data administration, and security. Records management and data administration should immediately begin the coordination of their activities related to records and data management. Each District Office should designate a Records Administrator to follow through with the policies. At the District, these responsibilities at the onset should be assumed by the same position handling the data administration functions. A larger District may find it necessary to establish a full time position as we proceed toward implementation of the target system. Co-located Resource Areas would utilize the services of the District. Detached Resource Areas would identify a position to implement both records management and data administration policies. In both the District and Resource Area Offices, these positions should be independent of the IRM organization.

Adopt the Roles and Relationships identified for Records Administrator in Section A of this chapter. These requirements should be included in functional statements, position descriptions, PIPRs and recruitment actions for Records Managers as appropriate.

The Bureau must realize it may be difficult for existing Records Administrator to make the transition to the new Records Manager's role without extensive training, education, and skills development. We must begin planning now for necessary training or recruitment for the management and analytical skills needed to develop program policy and direction for the management of our records, information and data.

## *E. Role of Coordinators*

### *Problem Statement*

The role of the various IRM related coordinators has become clouded with the evolution of automated systems, time, and needs. A major concern of managers, throughout BLM, is the proliferation of "coordinators". The question that surfaces is whether the existing coordinators are still needed, and if so, for how long.

### *Discussion*

The Bureau has traditionally used coordinators to fill knowledge and policy vacuums that result from new initiatives.

Coordinators are, for the most part, advocates used to facilitate communication and educate the organization. Coordinators are not operational staff, accountable for the program, and do not make management decisions. Managers have found that through the use of coordinators they can both emphasize a new effort, as well as keep track of it. As a new initiative is accepted and the manager's comfort level increases, the role of the coordinator evolves into a more operational role.

This evolution is taking place in the IRM field. Presently the Bureau employs a number of IRM related coordinators. They include LIS, GIS, GCDB, ALMRS, ARD, and various others. Many of these roles are dual hat. The Study Team found that these individuals have, in many cases, migrated from coordination to operational roles.

The roles that these individuals perform have been highly influenced by local circumstances and vary widely throughout the Bureau. In addition to the duties originally identified for these coordinators, they have also become important in such areas as policy and guidance, user support, application development, and equipment configuration. In many cases, this was critical to getting the job done and therefore, a necessary expansion of the coordination role. Because of the shortage of trained staff in the IRM field, this expansion was actively supported by management. These roles frequently cross into other organizational units.

Technology is advancing so rapidly that the need for coordinators will likely continue to meet the needs of new initiatives. Managers need the flexibility to address high priority programs and initiatives with this kind of special position. They also need to recognize when the narrowly defined role of the coordinator has been met and the responsibilities can be carried out by the operational units. Presently, with the exception of the LIS Coordinator, most coordinators are performing duties of specialists, program leads, or program managers.

## **Alternatives**

### **Alternative 1**

Continue the use of current IRM related coordinators until implementation of the Target System in the mid 1990's or until a component becomes operational.

#### **Advantages:**

- Provides focal point for informational material at the field level.

- Readily identifies point of contact for users.
- Performs internal and external outreach.

#### **Disadvantages:**

- Program Leaders and managers do not accept responsibilities for program management.
- Fails to recognize the operational significance of the functions performed by the Coordinator.
- Policy and guidance may be formed outside existing organizational lines of authority.

### **Alternative 2**

Abolish all IRM related coordinator position titles, except the LIS Coordinator.

#### **Advantages:**

- Recognizes the significance of the operational responsibilities presently being performed by these positions.
- Places the position within an existing organizational line of authority.
- Program leaders and managers become responsible for program management.
- Management will be involved in all policy and guidance decisions.

#### **Disadvantages:**

- Confusion may result as to who handles the various components of LIS.
- Field offices will have several points of contact for user support and training.
- Program Leaders and managers may be reluctant to assume the remaining coordination role, particularly internal and external outreach.

## **Recommendation**

First, identify the primary responsibilities and duties of those

individuals referred to as coordinators and assign an organizational title that reflects their actual duties. Second, any office that has used "coordinator" in the classification title should examine the position description and change the title and series as appropriate. Third, place the coordination function with the identified program manager, program lead, or specialist within the existing organizational structure following established lines of authority.

### *Suggested Organizational Titles and Placement*

The primary duties of the ALMRS Coordinators have evolved into contract administration, supervision of land records personnel, data collection, budget program lead, technical specialist, and user assistance. The suggested organizational titles, depending on scope of responsibilities, would be ALMRS Manager, ALMRS Specialist, or ALMRS User Assistant. This would acknowledge the significant management and operational responsibilities that these positions have assumed. This position should be located in the same organizational unit as the Land and Mineral Records.

GCDB Managers are responsible for contract administration, program management, and supervision of a GCDB staff. The GCDB Managers are correctly titled and should not be referred to as a GCDB Coordinator. This position should be located in the Cadastral Survey organization.

At the State Office level, the GIS Coordinator furnishes user support and assistance, planning and direction for project proposals, application training and program focus. Suggested organizational titles should include GIS Manager, GIS Project/Program Lead, GIS Technical Specialist, and GIS User Assistant. These positions in the State Office should be placed within the IRM organization. The District/Resource Area GIS Coordinators should be retitled as GIS Project Leads or GIS Technical Specialists and should remain within the IRM organization. As BLM progresses in automation/modernization, more and more of the program leaders and specialists will become competent in GIS applications.

Mapping Science Coordinators are generally the cartographic supervisor or the position that provides mapping sciences support. The organizational title should not include the term Coordinator and the position should remain placed organizationally with the resources and people it supports the most.

ARD Coordinators are performing duties that are program leaders responsibilities. Referring to these positions as coordinators dilutes their primary responsibilities and disguises their benefit to the organization. These Coordinator titles should be abolished and the functions assumed by existing program leaders in their respective organizational units.

## F. LIS Coordination

### *Problem Statement*

LIS related functions are presently spread throughout the organization. The LIS component (ALMRS, GCDB, ARD) leaders and other affected parties in the LIS are not always communicating effectively with each other. Information about the LIS activities taking place in the various locations must be gathered and conveyed to managers, employees, other agencies, and the public.

### *Discussion*

The LIS coordinator role is presently the closest thing the BLM has to a "true coordinator." It is primarily one of advocacy, communication, and education. Little, if any, operational responsibilities are now associated with the LIS coordination role. As the LIS continues to grow in visibility and importance, the LIS coordination role will increase substantially.

The LIS envisioned by BLM is an extremely powerful and complex system made up of three separate components, (ALMRS, GCDB, ARD). Several other elements, (e.g. ADP equipment, skilled ADP personnel, software, Public Affairs, and skilled users), must also be included in planning for an effective LIS. Information residing in the data base of each component will be accessed and manipulated on demand, using software specifically designed for that purpose. Hardware capable of handling large volumes of information must exist and people who are technically competent in ADP must operate and maintain the equipment. The users of the system must be knowledgeable and skilled enough in the use of the system and its applications to make effective use of the LIS. Communication and education throughout the BLM concerning the development and implementation of the LIS is critical at this time. The LIS Coordinators must serve as the point of focus to bring all these parts together.

As the LIS becomes operational, coordination within the various components, support elements, and the user community may be simplified. The program managers and program leaders should assume those responsibilities within their own areas of jurisdiction. However, the need for LIS system coordination among the system components, support elements, and users of the LIS will likely intensify. The LIS Coordinator must assume these coordination responsibilities. Unlike other "coordinator" positions, the LIS Coordinator position will likely be needed for the long term. Depending on



BLM's long term strategy for LIS, it may become a very highly visible program and require a reevaluation of the LIS Coordinator role.

### Alternatives

Recognizing the need for long term LIS coordination, the next questions are: what functions should be performed by the LIS Coordinator and where should the LIS Coordinator be located organizationally in our field offices?

#### Alternative 1 (Roles/Functions)

Alternative 1a. Make LIS Coordinator an operational position with responsibilities for implementing and managing the LIS including budget, training, policy and guidance, planning, user support, evaluation etc.

##### Advantages:

- Establishes one point of responsibility for all operational responsibilities related to the LIS.
- Places high visibility on the LIS as a Bureauwide information system and decision making tool.

##### Disadvantages:

- Removes responsibility and ownership of the system from the components and users.

OR

Alternative 1b. Continue LIS coordinator as a true system "coordinator" position with responsibilities for coordinating the budget, training, policy and guidance, planning, user support and evaluation needs of LIS with the three LIS components, the support elements and users.

##### Advantages:

- Provides a focal point for coordination of LIS functions.
- Keeps ownership of the system with the users.

##### Disadvantages:

- May be difficult for the LIS Coordinator to exert the amount of influence needed for this position on components and users.

#### Alternative 2 (Organizational Placement)

Place LIS coordination directly under the State Director/Associate Director.

##### Advantages:

- Places high visibility on the LIS coordination function.
- May facilitate coordination across Division lines as the position would not report to a specific Division.
- Provides direct access to top level management for LIS activities.

##### Disadvantages:

- Increases span of control for State Director/Associate Director.
- May encourage decisions being made concerning LIS without full management team participation.
- Separates LIS coordination from components (ie GCDB, ALMRS, ARD), and users.

#### Alternative 3 (Organizational Placement)

Place LIS coordination functions under the DSD for Operations.

##### Advantages:

- In most states this would place LIS coordination functions in the same Division as most of the system components (GCDB, ALMRS, ARD). This may facilitate coordination among the components.

##### Disadvantages:

- Separates LIS coordination from most users, ie L&RR/



Minerals.

- Places LIS coordination separate from support elements, ie technical ADP.

### Alternative 4 (Organizational Placement)

Place LIS coordination with the DSD responsible for the IRM organization.

#### Advantages:

- Places LIS coordination with IRM people. May facilitate coordination with the technical ADP element of LIS.
- Adds emphasis to LIS as an information management system.

#### Disadvantages:

- Separates LIS coordination from majority of users.
- Separates LIS coordination from LIS components.

### Recommendation

Each State Office, District and Resource Area Office should identify a position to serve as the LIS Coordinator. This recommendation is made with the following conditions: the LIS coordinator should not to assume operational LIS functions, or evolve into its own organization.

The team recommends the LIS coordinator functions defined in Section A of this chapter be located immediately under the Deputy State Director having responsibility for IRM. In most offices below the State Office the LIS coordination function will require less than a full time position. However, the team recognizes the differences in LIS activity from state to state, and therefore recommends that State Directors retain and exercise their delegated authority as to how the function is staffed.

In addition to designation of the LIS Coordinator, each state should hold regular coordination meetings involving all components and support elements of LIS. These meetings are best chaired by the ASD or at a minimum, the DSD responsible for IRM. It is also recommended that to enhance the LIS outreach and inreach, the Public Affairs offices begin to play a larger role in the LIS communication and education.

## G. ADP User Support (*Technical Services/Applications Assistance*)

### Problem Statement

One of the most frequently mentioned frustrations encountered at all levels of the Bureau is the difficulty ADP users have in obtaining prompt, competent, basic technical ADP assistance. The need for technical assistance is usually related to microcomputer use, but can involve any type of ADP assistance. The problem is intensified by the fact that many field offices have few or no staff who are technically trained in ADP and this function is being performed by people trained and classified in non-ADP positions.

### Discussion

In this study two types of user support are defined: Technical Services and Applications Assistance. In its broadest interpretation technical services includes: all types of installation, operation, troubleshooting, maintenance, and repair of hardware, software, and communications equipment, systems design and configuration management and programming. Applications assistance includes: developing applications using standard approved software, data entry, and processing data and answering user's questions about specific applications. Both types of support are needed.

In many field offices the technical services are being provided by "expert" users from within the office. These people take time from their regular duties to assist other users with ADP problems. Usually the services performed are at a moderate or low skill level and done at the expense of the expert user's regular duties. This fails to reflect the true cost of this support. In many instances, the demands placed on expert users for their assistance account for over half of their time. This is not to diminish the importance of the assistance they currently provide. During interviews, many people expressed the opinion that the best technical support comes from a resource person with technical ADP skills, rather than someone with only an ADP background. They felt that such a person understands the applications and needs of users better and communicates more effectively with them.

Some people carry this idea further by stating that a computer specialist with a resource background should be available to query and update data bases in support of managers, program leaders and specialists. This crosses over the boundary of technical service. The concern with this idea is that some managers, program leaders and staff specialists would like to avoid

dealing directly with automation and this is one way to do that. Such over reliance on support staff does not encourage the users to develop their own computer skills.

It is important that program leaders and staff specialists become familiar with those systems and applications that support their activities. The program lead who turns all responsibility for an automated system to a computer assistant will never fully understand the application and will be unable to provide the kind of program guidance and leadership required of them to modernize their program. Program leaders must accept and execute their responsibilities for automation by becoming knowledgeable as well as being leaders in automating the program areas they are responsible for. They must take the lead in defining applications, setting program priorities and developing the guidance necessary to effectively lead their programs. It is essential that the functions of applications assistance be performed by program leaders.

It should be acknowledged that much of the reason for the frustration and demand in user support is rooted in two facts. First the Bureau's work force is not as computer literate as it needs to be. Most Bureau employees have only begun using computers in the last few years and they are having to learn new skills and procedures to do their jobs. In less than five years the Bureau has gone from perhaps a few hundred microcomputers to nearly 5,000. This influx of equipment has added new skill requirements for employees to do their work. Many are frustrated in computer use by poor keyboarding skills and a general lack of basic understanding about computers and automated systems.

A second reason for the user support problem is the insufficient number of technical ADP support staff. The personnel reductions of recent years have made it very difficult in some offices to increase staffing in any of the technical services areas. New positions are frequently established at the expense of the traditional lands and resource program positions. Staffing for technical services support has not kept current with the number of computers and users to be supported.

Recognizing some overlap, there are two separate functions requiring separate skills. Technical Services is equipment oriented and requires ADP skills. Applications assistance is applications oriented and requires programming skills. Assuming that the program people will provide applications assistance and remain in their respective organizations, the main issue is where to place the Technical Services support functions. At State Offices and larger District offices the question of where to place the Technical services function is more of a problem than in smaller offices. It would be unwise to disperse the major technical ADP services functions away

from the IRM organization. The IRM organization must be a cohesive unit in order to provide the leadership, technical skills and effective operational support needed to implement the target system. Dispersing the policy and procedures function to user offices would fragment the IRM functions and set up an inefficient and competitive situation. However, using the definition of basic technical services support, it may be desirable to place some level of user assistance directly with the users provided the function does not exceed its intended purpose and provided there is adequate local workload. It is essential that management and users exercise discipline and adhere to the limitations placed on technical services positions if they are established. Where central IRM staffs are needed, especially at District and Resource Area Offices, the Farmington Pilot Office can serve as a model. In that office, the following positions were added: Computer System Analyst, Data Base Administrator, Computer Allocations Specialist, Computer Specialist and Cartographic Technician.

In considering the creation of computer assistant positions, managers should keep in mind that they will probably grade in the range of GS-5 to GS-7. This will change the situation at some Bureau offices where technical services assistance has been assigned to a resource specialist, GS 9 or 11, that has demonstrated ability and interest in automation. While the technical abilities of these individuals may be impressive, the fact remains that if their grade is based primarily on their ADP skills it will be difficult or impossible to justify their current grade.

### *Alternatives*

The alternatives separate the technical services issue into two parts. State Offices and large District Offices and small District Offices and most Resource Area Offices. The size distinction between large and small offices is admittedly vague. Support needs should include considerations about number of employees, physical size and layout of the office, number and kinds of machines, distance and accessibility between users and the current support staff.

#### **State Offices and large District Offices**

##### *Alternative 1*

Establish a central technical services user support staff/branch in the IRM organizational unit. Responsibility of the people on this staff would be to provide technical ADP support to all users in the State or District office. There could be some specialization so that one person becomes familiar with the

operations of a specific organizational unit(s) and could be assigned to support that unit or specialization could be focused on hardware.

### *Advantages:*

- There would be backup when a support person was absent.
- The support staff could assist and train each other.
- It could more efficient, as support staff could be shared.
- The support staff would have ready access to the rest of the IRM professional staff and could more easily stay abreast of current operations and guidelines.

### *Disadvantages:*

- The user organizations would have no control over their support.
- The support staff could be lost to priority IRM work.
- User Divisions may be reluctant to provide funding and FTE to establish the positions in the IRM organization.

### *Alternative 2*

Establish a Computer Assistant position(s) in each of the State Office Divisions. The purpose of this position(s) would be to provide basic technical services support. It is important to emphasize that this position(s) would provide all the basic technical services needed and would not do any system development or use other than standard microcomputer software, (e.g. dBase and Lotus). NOTE: Technical ADP support of a major nature such as systems design, major programming, data base administration etc. would be provided from the central IRM organization.

### *Advantages:*

- The end users would have greater control over their own technical services work.
- The Computer Assistant would be available for operational work within their own unit.
- The technical services positions would be located closer to the users they support and would become more knowl-

edgeable and efficient.

### *Disadvantages:*

- The Computer Assistant would be somewhat isolated from other IRM professionals. It would be more difficult for them to keep current on ADP operations and policy guidelines.
- The position could become too operational. Some users may rely upon this position to perform ADP work they should learn to do themselves.
- The need for user assistance as defined may diminish as staff specialists become more computer literate and program leaders are able to assume their responsibilities related to ADP. As that occurs, continuation of a user assistance position may become less justifiable.

### *Smaller District Offices and Resource Area Offices:*

#### *Alternative 3*

Only one viable alternative for small District Offices and Resource Area Offices was identified:

Establish and staff a central organization to provide all ADP support for the office. In many cases, a 1 to 3 person staff can service an entire office in situations where the individual program units are not large enough to justify their own technical service staff. The organizational location of the central staff should be consistent with the State Office organizational structure.

A commitment to technical services support and applications assistance is essential. In very small offices, (<15-20 people) it may be necessary to combine technical and application support for users. The individual in these positions must be fully trained and allowed the time needed to meet their responsibilities.

### *Recommendation*

The overriding recommendation is that on-site technical service and applications assistance support be provided at all offices. This is clearly an important issue now, and will become more important as we move toward the implementation of the target system. User acceptance of automated systems and the development of a computer literate work force

is essential for the Bureau's future. Bureau managers must take action by providing both types of responsive on site user support.

For State Offices and large District Offices alternative 2 is recommended. The team recognizes that unique situations exist at various offices and believes that the local managers are best able to determine which organizational units in their office require their own technical user assistance positions. It is essential however, that managers recognize and support the limitations placed on these basic technical service positions within the context of the overall ADP support functions.

For small District Offices and Resource Area Offices alternative 3 is the only viable solution identified. The team believes that offices cannot continue, in the long run, to rely on partial solutions, such as expert users. The difficult decisions must be made to provide skilled user technical service and applications assistance at all field offices.

## H. Quality Control

### *Problem Statement*

Automated systems, unlike manual systems, will not function unless quality standards are met for data, configuration of hardware and software, and systems operation and documentation.

Given the vast quantity and unique complexity of data and BLM's decentralized delegation of authority, there must be a special effort to establish and assure the discipline necessary to adhere to quality control policies and procedures.

### *Discussion*

The two aspects of maintaining quality are: quality assurance and quality control. The difference is subtle but distinct. Each is defined as follows:

**Quality Assurance.** A planned and systematic pattern of actions necessary to provide confidence that the system conforms to established technical requirements. It is the guidance or framework used to ensure that quality control mechanisms are actually used. Quality Assurance is a management responsibility.

**Quality Control.** The mechanisms used to ensure that completed products (e.g., data bases) meet established standards. Quality Control is a technical IRM function.

It is important to note that adherence to management direction and technical quality control procedures is the responsibility of every user of BLM's automated systems. Users must assure that the data is of sufficient quality to meet their needs. This is particularly true as the Bureau moves into exchanging and selling electronic information. Maintaining quality is directly related to ownership of the data. For example, program leaders and specialists who own their data and rely on it will maintain the integrity of it.

### *Data*

Experience has shown that the most costly and time consuming aspect of running applications relates to data accuracy. Currently the functional roles necessary to achieve quality assurance and quality control are unclear.

Given BLM's decentralized delegation, managers are ultimately responsible for quality assurance. Therefore managers must become knowledgeable of the data and make sure that an effective quality assurance program exists. The Data Administrators must guide the overall development of data standards, publish them in the Data Element Dictionary (DED) and establish data ownership. The various program leaders must develop their data standards and provide guidance for their use in specific program areas. Technical IRM people must establish standards and operating procedures for data base administration- systems for running specific data.

The users' primary responsibility is one of adherence to data standards and operating procedures. For example, when entering data they must conform to the standards and check the correctness of their entries. It is not possible to overstate the need for discipline throughout the bureau when it comes to assuring the integrity of the data. For example, we are often faced with decisions regarding how "good" the data has to be. We have information that has been collected over the years at different scales, stored on a variety of mediums, and may even be of questionable origin. Managers, Data Administrators and program leaders must decide what data is automated and set the standards that are going to be met. In order to make intelligent decisions we need to understand the long term impacts of entering poor quality data into the system. Resource management decisions are only as good as the information upon which they are based.

### *System Design and Documentation*

The technical IRM people have a different role to play in quality control. It is not the data that they are primarily concerned with. They are responsible for ensuring that sys-



tems (HW/SW) and applications are designed, documented and functioning properly. They must ensure that the quality of a system and its documentation meet acceptable standards.

### Recommendations

1. Assign responsibility to the proper managers for ensuring that a comprehensive quality assurance program for IRM is developed and implemented.
2. Assign responsibility to the appropriate ADP people for ensuring that systems are satisfactorily built and documented. Hold them accountable for the quality of the systems and documentation.
3. Assign responsibility for the overall development of all data standards, documenting data standards (data element dictionary) and enforcing standards to the Data Administrators.
4. Assign responsibility to program leaders for setting data standards and for developing and implementing quality control mechanisms related to data in their specific programs. This would also apply to Records Administrators.
5. Assign responsibility to all users to become knowledgeable of pertinent quality control requirements and to adhere to those requirements.

## I. Classification and Other Personnel Actions

### Problem Statement

Functions for automation must be incorporated into the Bureau's Personnel system including functional statements, position descriptions, vacancy announcements, KSAs, and PIPRs. Many of these functions relate to classification, particularly for new technical IRM/ADP positions. A strategy is lacking to resolve the problems resulting from the impacts of modernization on position classification and other personnel actions.

### Discussion

As we defined the work to be done in automation/modernization, who will do it, and where it will be placed organization-

ally, we can then logically and realistically apply these definitions across the Bureau in the Personnel System. Classification from a human resource management perspective is the first stage of the personnel process. Out of this process, duties are defined, skills and knowledge are identified, and the parameters for evaluating an employee are determined. From this initial personnel action, staffing, employee development and employee relations are impacted.

The Bureau has been struggling with classification and other personnel issues relating to IRM positions in isolation. Each manager/supervisor has approached IRM positions from the vantage point of immediate operational needs. Also, classifiers and staffing specialists have not had much experience with technical ADP positions. The Bureauwide strategy must meet immediate needs plus the goals and objectives of the Target System.

Based on the impact of the classification process on other areas of human resource management, the amount of time spent developing a consistent approach that addresses the skills and position requirements of the Target System is not wasted.

This brings into focus once again the need for managers and supervisors to personally become knowledgeable about our current and projected automated environment. To varying degrees, BLM classifiers and personalists have been able, through thoughtful sessions with subject matter experts and reading the available literature, to make distinctions on issues relating to IRM and reach an understanding about the nature of the work in order to classify positions.

As we achieve model organizational structures, we can also develop model position descriptions and uniformity in classification of the work. This approach addresses the needs of an integrated system and recognizes the value of consistency in classification to promote equal pay for equal work. This argument is based on efficiency and economy of operations through organizational stability and improved morale since employees interpret consistent application of the classification standards as being evidence of equitable treatment.

### Recommendations

Based on the recommendation for a model organizational structure, functional statements should be developed and work identified and described. It is recommended that model position descriptions and evaluation statements be developed recommending position classification (title, series, and grade). These documents should be used to establish positions and to ensure consistency in our recruitment and skills identification requirements.



NOTE: The A.D. Management Service has already initiated action on this recommendation.

## J. Skills Acquisition and Development

### *Problem Statement*

This study identifies the work functions needed for automation/modernization in BLM. The strategy for acquiring the skills needed to perform these functions has yet to be developed.

### *Discussion*

Based on field office visits, there is a wide range of automation knowledge and skill among employees. This is true at all organizational levels and occupational series. Some employees have brought to the Bureau, or developed while here, a wealth of knowledge and expertise, while others lack even basic automation skills, e.g., keyboarding.

The current approach to meeting skill requirements is through a variety of training vehicles including self development. Much of this training has focused on PC training. Technological advances in field offices will require additional skill levels. However, until the Field Committee initiated a training needs analysis for LIS, there were no consistent, Bureauwide analysis of training. Hopefully, new systems will provide a higher level of user friendly interface that will decrease the cost of training and eliminate some of the frustrations associated with the introduction of new automated systems. Employees interviewed understand the need for self development and that training, as it relates to IRM, will be ongoing as hardware/software advances are made.

Skill deficiencies in the Bureau vary from basic keyboarding to highly technical areas. This was verified by the "Training Needs Analysis for the Interim Land Information System" prepared by the Phoenix Training Center. The results show training deficiencies across the Bureau. Estimates are that 1/3 to 1/2 of the Bureau's work force will need some type of IRM training. The employee development process must place much more emphasis on automation/modernization work. Based on skills needed to accomplish the work, training assessments can be made. State Office Employee Development/Training Specialists also need to understand this new emphasis.

The WO training function has recently been elevated organi-

zationally and will report directly to the AD Management Services. This Bureauwide focus recognizes the crucial nature of training when implementing a major Bureauwide system. Technical IRM employees need to maintain their technical specialties. This is particularly important as the Bureau implements the interim system and moves toward the target system. Technical staff must also have communication skills to pass on technical information to managers, program leaders and users in all levels of the organization.

Planning for training is just one aspect of an integrated skill acquisition strategy.

Recruitment planning will also be necessary to begin meeting skill needs. Training, retraining or "growing our own" will not meet all our skill needs. Retraining may be appropriate to improve basic computer literacy, but the Bureau must begin to plan for the recruitment of the more highly skilled technical computer professionals.

Contracting for needed skills is a third option to consider in planning. It is possible that some automation related work presently being done in house could be done more efficiently and cost effectively by contract. This option should be considered for large data entry jobs and even for day-to-day computer operations.

### *Alternatives*

#### *Alternative 1*

Each office continue to identify and acquire needed skills in their own way at their own pace.

#### *Advantages:*

- Provides maximum local control to local managers to acquire skills
- Skill requirements and acquisition can be tailored to specific local circumstances.

#### *Disadvantages:*

- Does not encourage a consistent Bureauwide approach or end result in skills acquisition.
- Is less efficient because of duplication of effort.

### Alternative 2

Develop a Bureauwide integrated strategy for skills acquisition that includes contracting, recruitment, and training.

#### Advantages:

- Provides consistency in approach and end result.
- Eliminates duplication of effort.

#### Disadvantages:

- Local managers may lose some flexibility in acquiring needed skills.
- Will require a sizeable initial commitment of time from people tasked with developing strategy.

### Recommendations

Develop a Bureauwide integrated strategy for acquiring needed automation related skills. This strategy should include training, contracting, and recruitment. Following is a partial listing of actions the team feels should be included in the strategy.

1. Develop a modified version of the "Road Show" which can be incorporated into existing training and orientation modules. This would be especially appropriate in the Employee Excellence (EE) seminars for new and existing employees.
2. Continue to offer the PTC course "Automation for Managers and Translators" or redesign that course for more localized use. Utilize the concepts of "Train the Trainer" and provide each SO with course materials and lesson plans. Each state could modify its content to their specific current and planned modernization efforts.
3. Implement the recommendations of the Training Needs Analysis for the Interim LIS in each year's AWP.
4. Each State Office should focus its Human Resource Development capability on the following as they relate to automation/modernization skill acquisitions:
  - a. Teaching/Instructing/Learning - design, develop, conduct, and evaluate learning experiences.
  - b. Consulting - assist managers and supervisors in developing their employees to meet the needs of the Bureau.
  - c. Career development or career counseling.
  - d. Program Management - assist managers in their management responsibilities, including budgeting for the needed training and course identification.
  - e. Administrative - paperwork processing of training forms, facilities and equipment needs for course presentation, etc.
5. Each State Management Team should develop guidelines for IRM training. This should include who should go, when to train, and follow up actions.
6. Since IRM technology is constantly changing, BLM managers must make a commitment to provide adequate time for training professional IRM employees to keep them current with new technology.
7. Each State should develop a recruitment plan to address future IRM skill needs. Recruitment should include traditional methods such as cooperative agreements with universities and colleges, on-campus interviews, student trainees, direct hire authority, and in-house efforts such as establishing upward mobility positions and career counseling.
8. Each State should analyze its work, evaluate the potential for contracting and develop plans for appropriate contracts.
9. Managers should continue to emphasize and encourage all employees to utilize self development techniques, such as correspondence courses, local college courses, tutorials, and on-the-job training.

## K. Mapping Science

### Problem Statement

The mapping science will have an increasingly important role in resource management as LIS and modernization develops. Currently, the mapping science functions are highly fragmented. The automation of these functions provides the opportunity to more readily integrate them to provide a higher level of support for all Bureau resource programs.

## Discussion

Generally the mapping sciences umbrella includes remote sensing, aerial photography, photogrammetry, cartography, plat drafting, map preparation, and graphics. Typically, States have individually distributed these functions among a variety of organizations. In the past, coordination among the different mapping sciences components has not been a primary need, thus it is often weak. Some functions have not been staffed or are seldom used. Currently, use and location of remote sensing and aerial photography are often dependent on the chance of resident skill some place in the organization. Plat drafting and cartography are rarely combined; graphics is located in a variety of organizations.

The development of automated means to portray land and resource features ties these functions together in a new way. They will be using common data bases, often building on a common digital data bases, often building on a common digital base map that is tied to geographic coordinates. Work is underway to develop a means to convert satellite imagery data to the digital data used in the Geographic Information System applications. Satellite imagery and aerial photography are converging in their capability to obtain high resolution images. Both are seen as essential tools in the future management and maintenance of GIS produced resource data bases and mapping requirements. Plats will be developed using the same digital data for their base as GIS/LIS. Cartography and mapping will also utilize the GIS/LIS developed data bases and graphics capability for much of their work.

Automation appears to be a strong, new connection between the mapping sciences functions. Where operations have been primarily manual (plat drafting, mapping, and cartography), new skills will be required to successfully evolve to the coming automated environment. Coordination between the various functions will need to be excellent to ensure the most effective means of accomplishing a graphics task is selected. Cooperation in development, use, and management of common data bases will be essential.

There is also the possibility of increasing duplication and fragmentation of functions unless some positive efforts are made to integrate the mapping sciences functions more closely. Already, there are signs of potential new duplication of cartographic activities among GCDB and existing cartographic organizations.

All of this suggests that there may be a benefit from examining the mapping sciences functions to determine if the current organization of these functions is the most effective for the coming years.

## Alternatives

### Alternative 1

Keep the functional components of mapping science separate organizationally.

#### Advantages:

- More visibility for each part of the program.
- Can track funding to a greater level of detail.
- Easier to focus on separate components.

#### Disadvantages:

- More difficult to integrate efforts.
- Less flexibility to shift skills, funds, people.
- More difficult to integrate technology.

### Alternative 2

Integrate the functional components into an organizational entity for mapping science.

#### Advantages:

- Much greater capability to manage the components.
- Much greater ability to focus all components on specific goals and objectives requiring all parts.
- Can utilize the automated technology much more efficiently across all components.
- Can provide cross training and increase backup.

#### Disadvantages:

- Each component lacks some visibility/identity.
- More difficult to track funding by component.
- More difficult to focus on system components.

### Recommendations

Currently the organizational arrangements for mapping science differ in each state. The trend should be toward consolidating functions as the work need progresses for: Resources base data maps, digitizing, GCDB related maps, automated plat drafting etc. Also this is an area where some efficiencies can occur by consolidating staffs, cross training, better utilization of equipment, space, more timely products outputs, etc. There are some advantages in external working relationships (e.g. USGS) by developing a mapping science focus bureauwide.

Each State Office should evaluate its current and potential work load, and the considerations above and develop its own plan for organizing the mapping sciences functions.

## III. IRM Organizational Alternatives

### Introduction

Clarification of IRM functions will go a long way toward solving the issues presented in this report. However, one primary issue confronting the study team was, "How can the Bureau be best organized to use IRM tools to assist in its resource management mission?" The variety of answers to this question is evidenced by the variety of IRM organizational arrangements existing in field offices. Some states have or propose to centralize IRM functions while others have distributed IRM related responsibilities among other organizational units at the State, District, and Resource Area levels. The Alaska State Office, with its Division of IRM is an example of a centralized organizational structure. State Offices with a small Branch of Information Services and user support positions distributed to other Divisions and Districts are an example of a more decentralized IRM organization.

Most states currently have a Branch of Information Services within the Division of Administration. However, their capability and their assigned responsibilities also vary from all the IRM functions to only computer operations and procurement assistance.

During this study strong feelings were expressed about centralization and the potential for a Division of IRM. Those in opposition often cited the possible overallocation of resources away from on-the-ground resource management and the potential that a separate IRM organization would become too

isolated from the people it serves to be responsive to their needs. There was recognition of the potential for gained efficiency, standardization, and improved coordination when all LIS/IRM responsibilities are centralized.

One concern is the need for flexibility and consistency in looking at organizational alternatives. Flexibility allows offices to assess their own strengths and weaknesses and adjust their organizations to their needs as well as funding and FTE limits. Conversely, the advantages of some degree of organizational consistency are clear. In a program of this magnitude and impact both now and in the future, many people feel there has to be organizational consistency and stability and point to the current problems BLM is having in IRM to support their view.

Another concern in determining the IRM organizational structure is BLM's style of management. BLM's present organization is decentralized with emphasis on providing maximum management and operational authority to on-the ground managers. Until recently, IRM was an exception in that management and operational responsibilities were usually retained at the State Office with little responsibility at the District or Resource Areas. This was in large part due to funding and staffing limitations as well as the evolving nature of IRM in the Bureau. This centralization is rapidly changing. With the proliferation of microcomputers and minicomputers in the District and Resource Area Offices, people in these offices have a strong desire and perceive the need to manage and operate their own IRM organization.

All of the organizational alternatives listed including the recommended alternative, generate other concerns about current staffing capability. For instance, some DSDs Administration currently lack adequate knowledge and experience in managing information resources. At the District and Resource Area levels most Administrative heads are one to two grades lower than their counterparts in other program areas and may lack the management experience desirable for managing a complex IRM program in addition to their existing workload. Some of the DSDs for Operations are similarly unfamiliar with the LIS effort and already manage a very large, complex division in most states. Establishing new Divisions without abolishing existing Divisions would create needs for new DSD and ADM positions and support staff. Filling the DSD position on a State Management Team with promising IRM branch chiefs, a non-technical manager or someone from outside of the Bureau all present some concerns. Creating a new IRM Division and combining the remaining functions from Operations and Administration promise major disruptions for many people in the field offices. The challenge for the Study Team became how to translate these concepts and concerns into an organizational design that will facilitate the effective management of the



Bureau's total automation-modernization (IRM) effort.

## **Recommended Alternative**

The objective of this alternative is to balance the new requirement of IRM with the existing BLM organizational concepts of decentralization and delegation of authority in a manner which utilizes past experiences, current capability, and a realistic view of the future.

### *Within the State Office (Illustration 1a)*

- Maintain the primary components of the existing organization structure.
- Place IRM technical responsibilities as defined in the "Roles and Responsibilities" of Chapter II.A within an IRM Branch in the Division of Administration.
- LIS Coordination, Records, Security, and Data Administration functions would be assigned to a staff reporting directly to the DSD Administration.
- Develop policy and guidance for integrating ALMRs, GCDB, and ARD into LIS.
- The IRM Branch would provide technical user support throughout the State Office.
- Technical Services Support as defined in Chapter II.G would be provided by Computer Assistants located within user Divisions as demand dictates.
- Policy and procedural guidance for GIS would be provided by the IRM Branch.
- Operational aspects of existing systems such as ALMRS, GIS, and GCDB would be located out of IRM and with the primary users of the system.

### *Within the District Office (Illustration 1b)*

- Maintain the primary components of the existing organizational structure.
- Place IRM technical responsibilities as defined in the "Roles and Responsibilities" of Chapter II.A and LIS Coordination within an IRM Branch in the Division of Administration, or in smaller Districts without an IRM Branch, in a staff reporting to the ADM for Administration.

- Records, Security, and Data Administration functions would be combined to the degree possible and would report to the ADM Administration.
- The IRM Branch or staff would provide technical user support throughout the District office.
- User assistance as defined in Chapter II.G would be provided by Computer Assistants located within other Divisions as demand dictates.
- LIS Coordination would be provided by the IRM Branch or staff.
- Operational aspects of existing systems such as ALMRS and GCDB would be in existing Divisions and located as close as possible to system users.

### *Within the Resource Area (Illustration 1c)*

- The demand for computer skills will depend on the amount of IRM activity, number of employees, amount of hardware/software (HW/SW) etc. As appropriate, a person/staff would report to the Resource Area administrative staff leader or the Area Manager.
- The Resource Area IRM staff would perform collateral duty in LIS coordination, operational aspects of GIS and user assistance. Operational aspects of ALMRS would be accomplished in the Resource Area by resource specialists.

### **Advantages:**

- Concentrates most IRM technical responsibilities in one organization.
- Facilitates coordination of IRM policy, standardization and related activities.
- Improves user acceptance and support.
- Requires managers to become more involved in basic IRM issues and management.
- Impacts the existing organization the least of all alternatives.
- Locates user support/assistance as close to the users and program leaders as possible.

Illustration 1a

## State Office Recommended Alternative

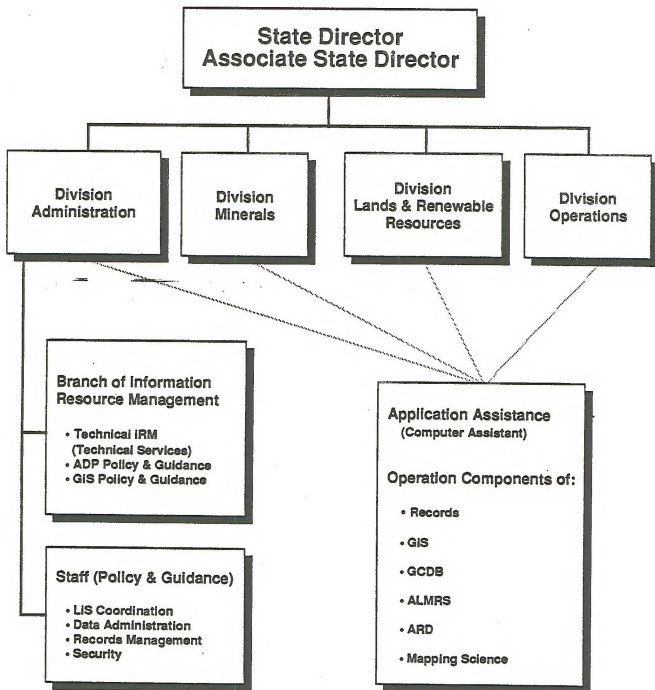
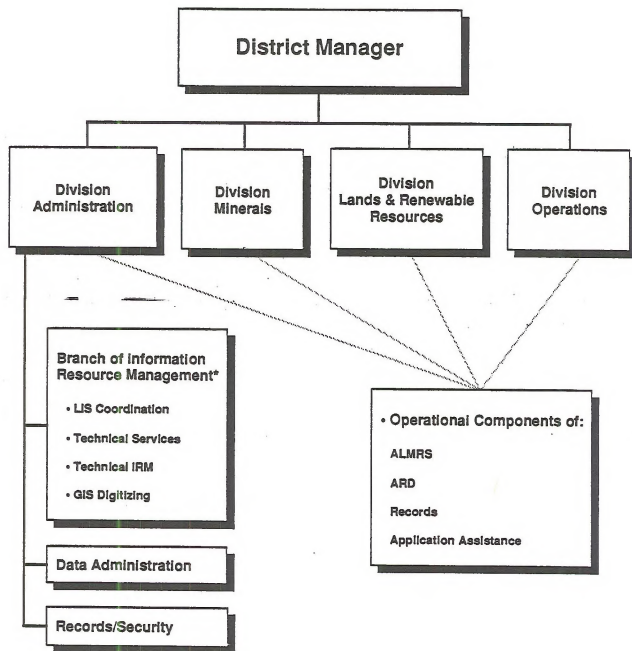


Illustration 1b

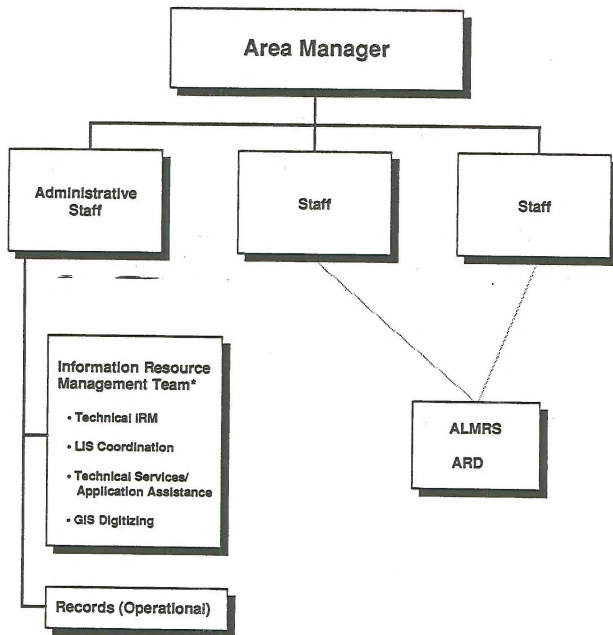
## District Office Recommended Alternative



\*May be a staff reporting to ADM for Administration in smaller Districts.

Illustration 1c

## Resource Area Office Recommended Alternative



Alternatively:

\*Report to AM as IRM Staff if Size/Activity/Responsibility Warrants



- Encourages broad involvement in IRM quality control at all levels of the organization.

#### Disadvantages:

- Separates LIS coordination (in Administration) from its operational aspects in other Divisions.
- Does not elevate IRM to the highest level possible in the Field office organizations.
- May require more personnel than a centralized organization.

The rationale for the recommended alternative is based on the following concepts. Based on past experience, there is a need to strengthen, consolidate, standardize and incorporate many of the new IRM functions into a more centralized structure. This would include the policy and guidance functions of data, records, security and the coordination functions of LIS. It would also strengthen the ability to provide both technical and applications support to users. It would significantly strengthen and make more visible the overall IRM functions as they relate to the traditional BLM mission.

The Team feels this is a significant and logical step given the current circumstances. Current circumstances include the Bureau's budget and how much should be allocated for IRM functions and the magnitude of organizational change. A significant amount of the current budget is already going toward the operation and maintenance of IRM. According to the most definitive analysis (IM 89-285), the total IRM cost for just IRM personnel Bureauwide is \$40 million. The recommended alternative meets the functional objectives yet avoids the substantial costs of creating large new organizational units.

The Team also believes there needs to be a realistic view of the future and the need to take an evolutionary approach. The estimates of what the target system will look like, its performance capability, how much we can afford to buy, where it will be placed, implementation schedule, etc. keeps changing. As the target system becomes clearer, functions and structure may change; but for now, the recommended alternative is considered a significant step forward but avoids a giant lurch — perhaps backwards.

The current attitude of Bureau employees is another consideration. It is not so much that people at the field level are dead set against automation-modernization. Their motivation is to get things done. They get frustrated when they can't see the direct link between IRM and getting things done; they get upset when they perceive funds going toward something they either don't

understand or don't want to understand. The point is there are strong persuasive attitudes which will be impacted by organizational changes, depending on the magnitude of change and how people perceive they will be impacted.

The recommended alternative will produce the desired functional results, make needed organizational shifts without major adverse impacts on the budget, is within the decentralized context of the existing structure, will not generate negative reactions and will help the field employees understand and accept how IRM relates to their getting things done.

Some argue that IRM needs high visibility organizationally because it is so important to BLM's outside image. The Team feels this is a misconception. IRM is a term which relates to the importance of BLM internally managing its information resources. As such, it is everyone's business, but IRM is not an image builder. LIS which produces visible outputs and services is an image builder. This is the concept the bureau should pursue. The recommended alternative incorporates this idea.

## Alternatives

### Alternative 1

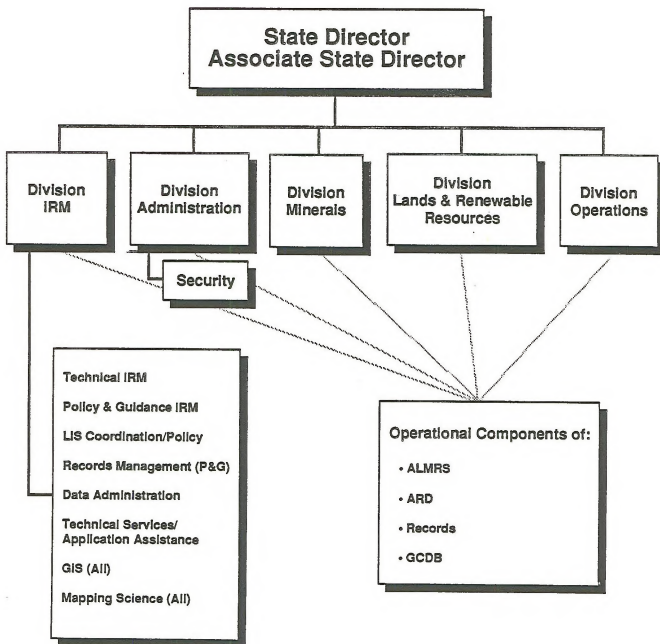
The objective of this alternative is to emphasize and elevate IRM policy and procedural guidance functions in State Offices and District Offices.

#### In the State Office (Illustration 2a)

- Establish a Division of IRM to perform the following:
  - The IRM technical responsibilities in the "Roles & Relationships" as defined in Chapter II.A.
  - Provide policy and program guidance for LIS coordination, records management, and Data Administration.
  - Policy and operational functions for GIS and mapping science.
  - Policy and guidance for integrating ALMRS, GCDB, and ARD into LIS.
  - Provide user support and assistance as defined in Chapter II.G to the entire State Office.
  - Security would be the responsibility of the DSD Administration.

Illustration 2a

## State Office Alternative 1



**In the District Office (Illustration 2b)**

- Establish a Division of IRM or staff reporting to the District Manager to perform the following:
  - The IRM technical responsibilities in the "Roles & Relationships" as defined in Chapter II.A.
  - Provide policy and program guidance for LIS coordination, records management, and data administration.
  - Policy and operational functions for GIS as well as policy and guidance for ALMRS, and ARD.
  - Operational aspects of ALMRS and ARD remain with the primary users.
  - Provide user support and assistance as defined in Chapter II.G to the entire District Office and attached Resource Areas.
  - Security would be the responsibility of the ADM Administration.

**In detached Resource Areas (Illustration 2c)**

- The organization would be similar to the recommended alternative.
- The demand for computer skills will depend on the amount of IRM activity, number of employees, amount of HW/SW etc. As appropriate, person/staff would report to the resource area administrative staff leader or the Area Manager.
- The Resource Area IRM staff would perform collateral duty in LIS coordination, operational aspects of GIS and user assistance. Operational aspects of ALMRS and ARD would be accomplished in the Resource Area by Specialists.

**Advantages:**

- Elevates the importance and authority of IRM.
- Concentrates most IRM technical responsibilities in one organization.
- Facilitates coordination of IRM policy, standardization and related activities.
- Provides backup for user support or other functions within

a single organization.

- Establishes LIS accountability in a single organization.
- Improves efficiency of scale and flexibility to IRM supervisors.
- IRM manager becomes a member of the Management Team.

**Disadvantages:**

- Elevates and concentrates IRM authority in a single unit.
- Isolates IRM technical expertise in one division.
- Reduces the need for IRM involvement throughout the rest of the organization.
- Hinders user acceptance and support.
- Increases the fear that IRM will become more than a tool for resource managers.
- Potentially forces other organizational/grade adjustments, i.e. Administration and Operations.
- Establishes a new organizational unit in each office with support needs.

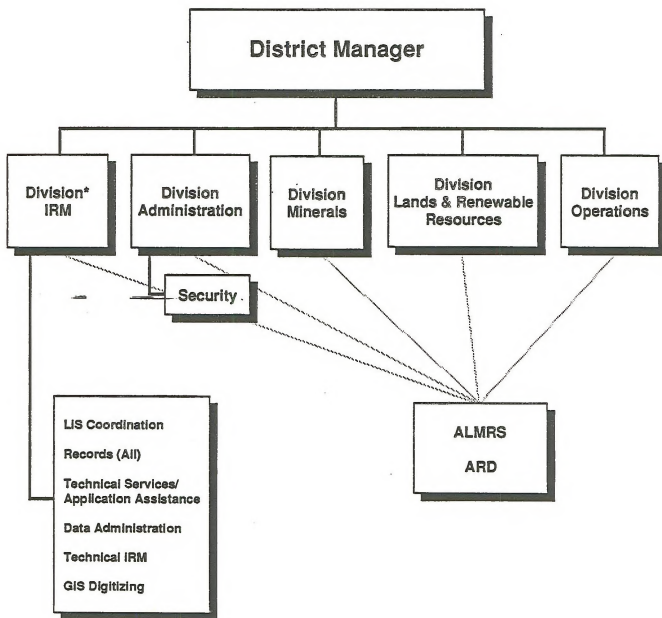
**Alternative 2**

The objectives of this alternative are to emphasize and coordinate IRM policy, procedural, and operational functions in State and District offices and to locate LIS functions as close as possible to users.

**In the State Office (Illustration 3a)**

- This alternative mirrors the Recommended Alternative except for:
  - Establishes a Branch of IRM in the Division of Operations.
  - LIS coordination, records management, security, and data administration functions would be combined in a staff and would report to the DSD Operations.

## District Office Alternative 1

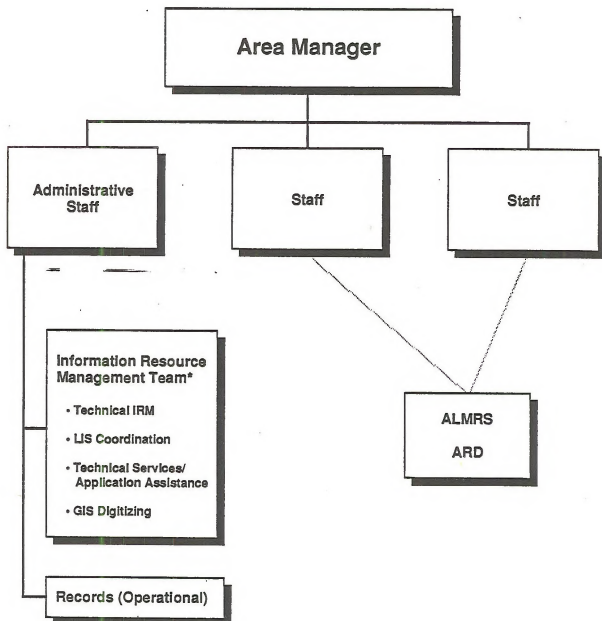


\*or Staff to Get Automation Started



Illustration 2c

## Resource Area Office Recommended Alternative

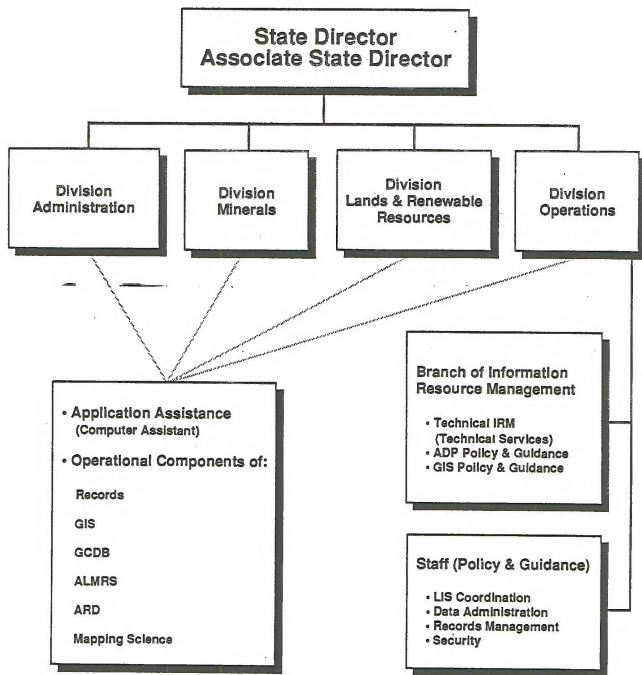


Alternatively:

\*Report to AM as IRM Staff if Size/Activity/Responsibility Warrants

Illustration 3a

## State Office Alternative 2



In the District Office (Illustration 3b)

- The organization would be the same as the recommended Alternative.

Within the Resource Area (Illustration 3c)

- The organization would be the same as the Recommended Alternative.

*Advantages:*

- Maintains importance and authority of IRM.
- Concentrates most IRM responsibilities in one organization.
- Facilitates coordination of IRM policy, standardization and related activities.
- Establishes LIS accountability in a single organization.
- Improve efficiency of scale and flexibility to IRM supervisors.

*Disadvantages:*

- Results in an extremely large organization in most State Offices.
- Not a consistent organization between the State and District levels.
- Isolates technical expertise in one Division.
- May hinder user acceptance and support.
- Reduces the need for LIS involvement throughout the rest of the organization.
- Priority for support to Administrative systems may diminish.
- Potentially forces other organizational/grade adjustments, e.g. Administration.
- Increases span of control/supervision for DSD Operations.

*Alternative 3*

The objective of this alternative is to combine policy, guidance, and operational aspects with technical aspects of IRM & LIS in a high profile organization.

In the State Office (Illustration 4a)

- Establishes an *operational* Division of IRM.
- Expands Alternative 1 by adding all *operational* aspects of records management, ALMRS, GCDB, ARD.
- The IRM technical responsibilities in the "Roles & Relationships" as defined in Chapter II.A would be performed by this Division.
- Provides policy and program guidance for LIS coordination, records, and data administration functions.
- Provides policy and operational functions for GIS.
- Provides user support and assistance as defined in Chapter II.G to the entire State Office.
- Security would be the responsibility of the DSD Administration.

In the District (Illustration 4b)

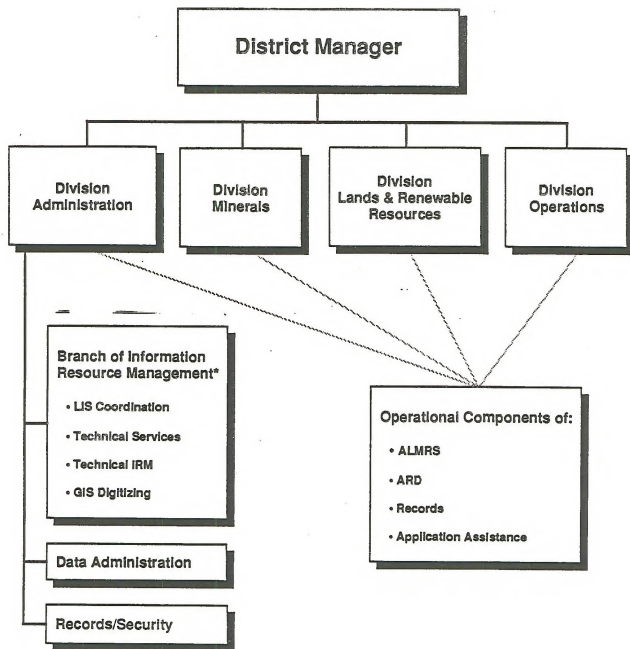
- Establishes a Division of IRM or staff reporting to the District Manager to perform the following:
  - The IRM technical responsibilities in the "Roles & Relationships" as defined in Chapter II.A.
  - Provides policy and program guidance for LIS coordination, records management, and data administration.
  - Policy and operational functions for GIS. Policy and guidance only for ALMRS and ARD.
  - Operational aspects of ALMRS and ARD remains with the primary users.

In Resource Areas (Illustration 4c)

- The organization would mirror the Recommended Alternative.

Illustration 3b

## District Office Recommended Alternative

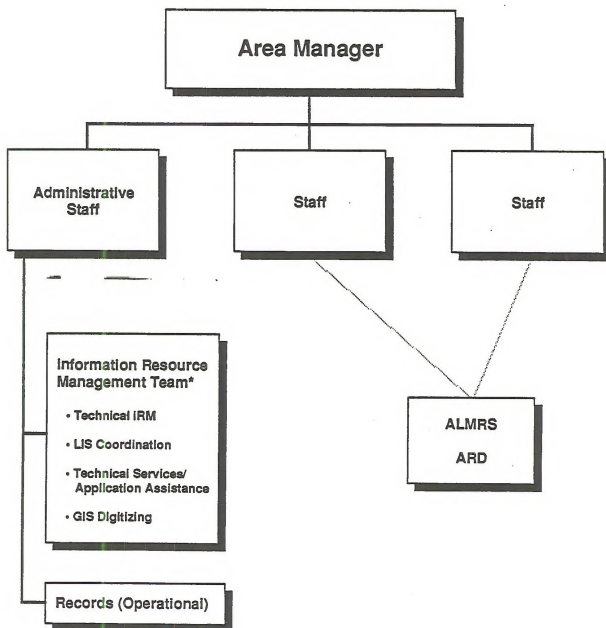


\*May be a staff reporting to ADM for Administration in smaller Districts.



Illustration 3c

## Resource Area Office Recommended Alternative



Alternatively:

\*Report to AM as IRM Staff If Size/Activity/Responsibility Warrants

## State Office Alternative 3

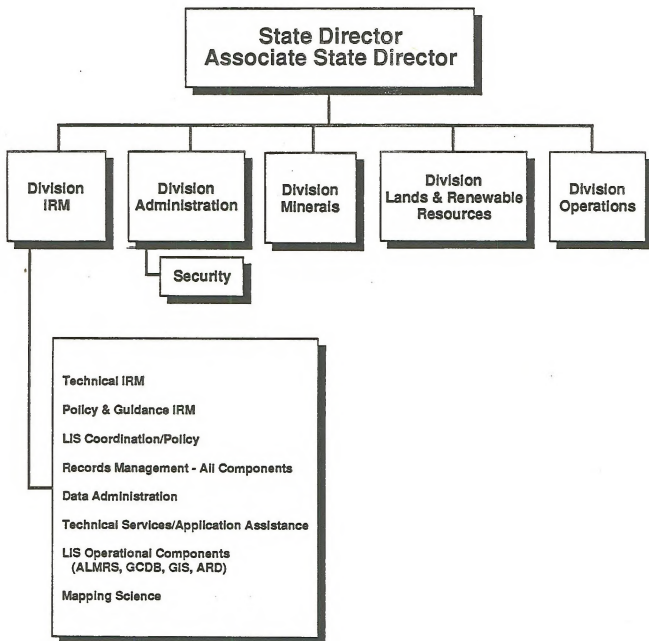
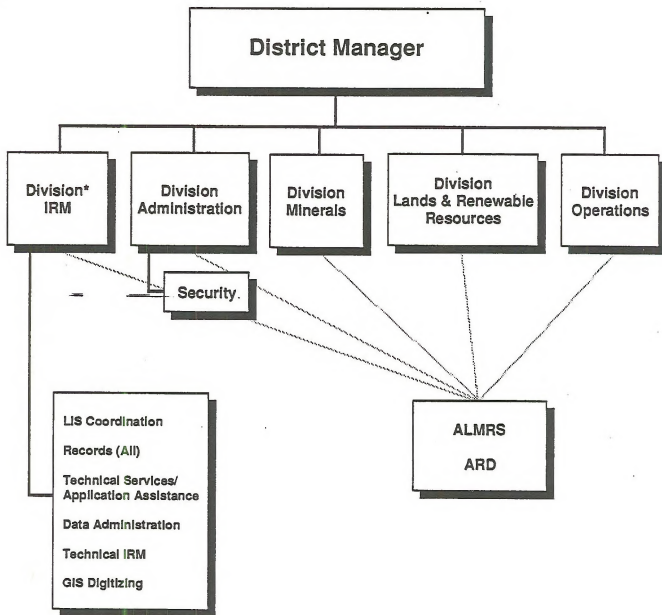


Illustration 4b

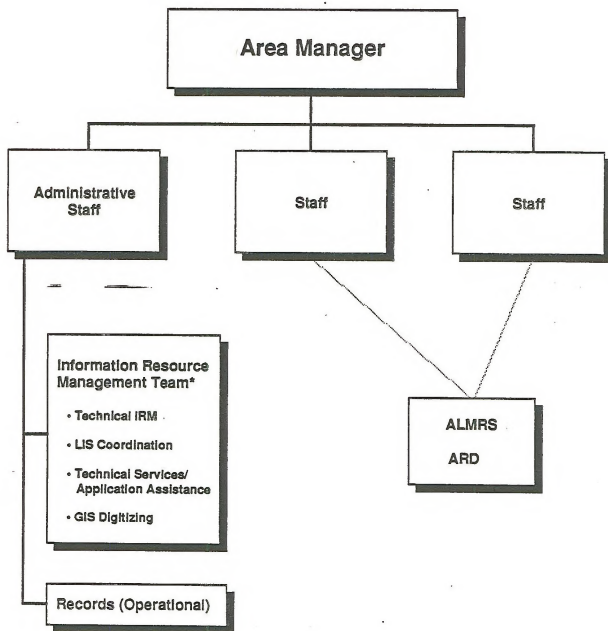
## District Office Alternative 3



\*or Staff to Get Automation Started

Illustration 4c

## Resource Area Office Recommended Alternative



Alternatively:

\*Report to AM as IRM Staff if Size/Activity/Responsibility Warrants



**Advantages:**

- Elevates the importance and authority of IRM.
- Concentrates all IRM responsibilities in one organization.
- Facilitates coordination of IRM policy, standardization and related activities.
- Provides backup for user support or other functions within a single organization.
- Establishes LIS accountability in a single organization.
- Improves efficiency of scale and flexibility to IRM supervisors.
- Facilitates coordination of policy standardization and operational aspects of LIS.

**Disadvantages:**

- Greatly expands the IRM organization, specifically in operational areas.
- Is contrary to Bureau delegation and decentralization policies.
- Removes all LIS functions from the users organization and program managers.
- Isolates all LIS expertise in one Division.
- Hinders user acceptance and support.
- Eliminates the need for IRM involvement throughout the rest of the organization.
- Forces other organizational/grade adjustments, throughout the organization.

**Alternative 4**

The objective of this alternative, like alternative 1, is to emphasize and elevate IRM policy and procedural guidance functions in the State Offices and District Offices. This alternative also combines the remaining functions from the Division of Operations and Administration into a single Division of Support Services.

**In the State Office (Illustration 5a)**

- Establishes a Division of IRM to perform the following:
  - The IRM technical responsibilities in the "Roles & Relationships" as defined in Chapter II.A.
  - Provide policy and program guidance for LIS coordination, records management, and Data Administration.
  - Policy and operational functions for GIS and mapping science.
  - Policy and guidance for integrating ALMRS, GCDB, and ARD into LIS.
  - Provide user support and assistance as defined in Chapter II.G to the entire State Office.
  - Security would be the responsibility of the DSD Support Services.
  - Combine the remaining functions of the Divisions of Operations and Administration into a single Support Services Division.

**In District Offices (Illustration 5b)**

- Establish a Division of IRM or staff reporting to the District Manager to perform the following:
  - The IRM technical responsibilities in the "Roles & Relationships" as defined in Chapter II.A.
  - Provide policy and program guidance for LIS coordination, records management, and data administration.
  - Policy and operational functions for GIS as well as policy and guidance for ALMRS and ARD.
  - Operational aspects of ALMRS and ARD remain with primary users.
  - Provide user support and assistance as defined in Chapter II.G to the entire District Office and attached Resource Areas.
  - Security would be the responsibility of the ADM Support Services.
  - Combine the remaining functions of the Division of

## State Office Alternative 4

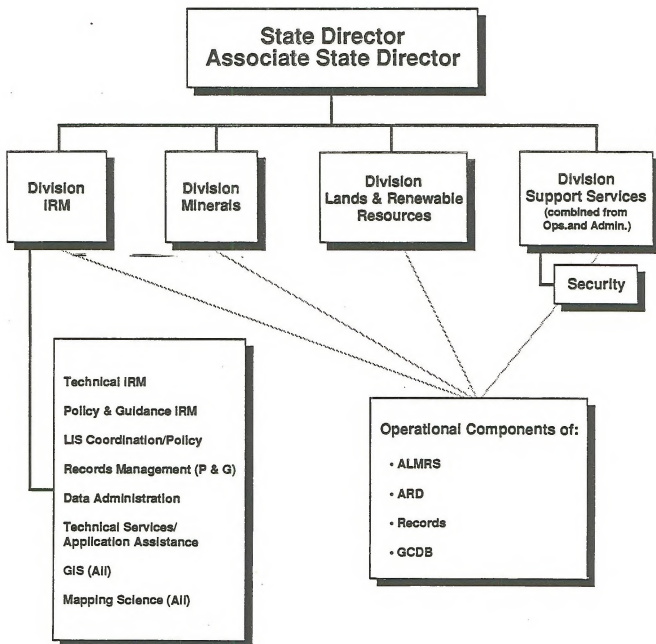
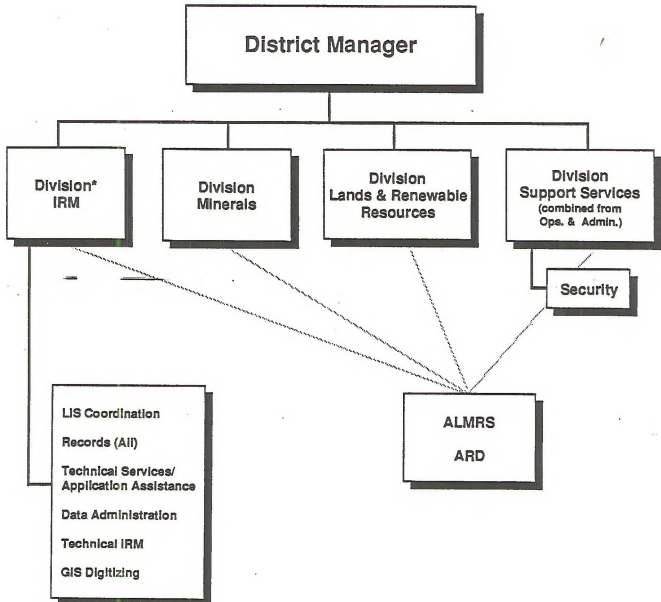


Illustration 5b

## District Office Alternative 4



\*or Staff to Get Automation Started

Operations and Administration into a single Division of Support Services.

### In Detached Resource Area Offices (Illustration 5c)

- The organization would be similar to the recommended alternative.
- The demand for computer skills will depend on the amount of IRM activity, number of employees, amount of HW/SW etc. As appropriate, person/staff would report to the resource area administrative staff leader or the Area Manager.
- The Resource Area IRM staff would perform collateral duty in LIS coordination, operational aspects of GIS and user assistance. Operational aspects of ALMRS and ARD would be accomplished in the Resource Area by Resource Specialists.

#### Advantages:

- Elevates the importance and authority of IRM.
- Concentrates most IRM technical responsibilities in one organization.
- Facilitates coordination of IRM policy, standardization and related activities.
- Provides backup for user support or other functions within a single organization.
- Establishes LIS accountability in a single organization.
- Improves efficiency of scale and flexibility to IRM supervisors.
- IRM manager becomes a member of the Management Team.
- Maintains the same number of Divisions at State and District Offices.

#### Disadvantages:

- Elevates and concentrates IRM authority in a single unit.
- Reduces the need for LIS involvement throughout the rest

of the organization.

- Hinders user acceptance and support.
- Increases the fear that IRM will become more than a tool for resource managers.
- Creates maximum disruption in Divisions of Operations and Administration through reorganization.

### Alternative 5

The objective of this alternative is to emphasize and evaluate IRM policy and guidance and technical functions to Division status in the State Office and to retain a viable Division of Administration by incorporating IRM Coordination functions with the remaining Division of Administration functions.

### In the State Office (Illustration 6a)

- Establish a Division of IRM to perform the following:
  - The IRM Technical responsibilities "Roles and Relationships" defined in Chapter II.A.
  - Policy and operational functions for GIS and mapping science.
  - Provide user support and assistance as defined in Chapter II.G.
- Maintain the Division of Administration and add the following:
  - Provide policy and guidance for LIS coordination, records administration, data administration and security.
- Operational aspects of ALMRS, GCDB, and records would remain with the user Division.

### In the District Office (Illustration 6b)

- The organization would be the same as in the recommended alternative.

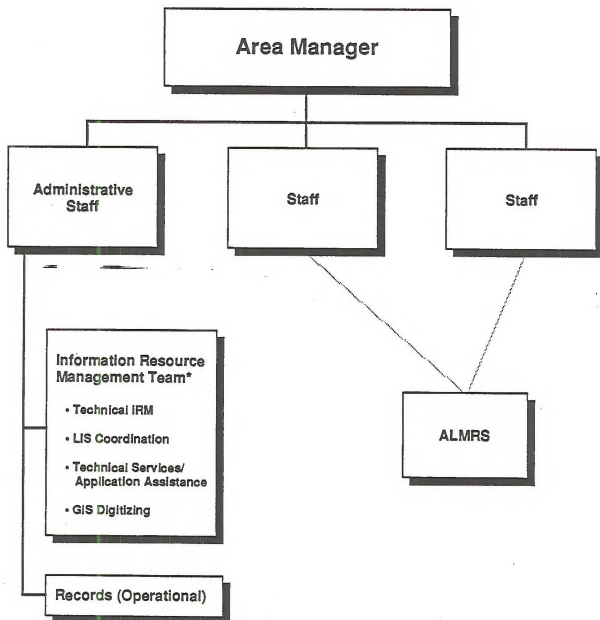
### In the Resource Area (Illustration 6c)

- The organization would be the same as in the recommended alternative.



Illustration 5c

## Resource Area Office Recommended Alternative



Alternatively:

\*Report to AM as IRM Staff if Size/Activity/Responsibility Warrants

## State Office Alternative 5

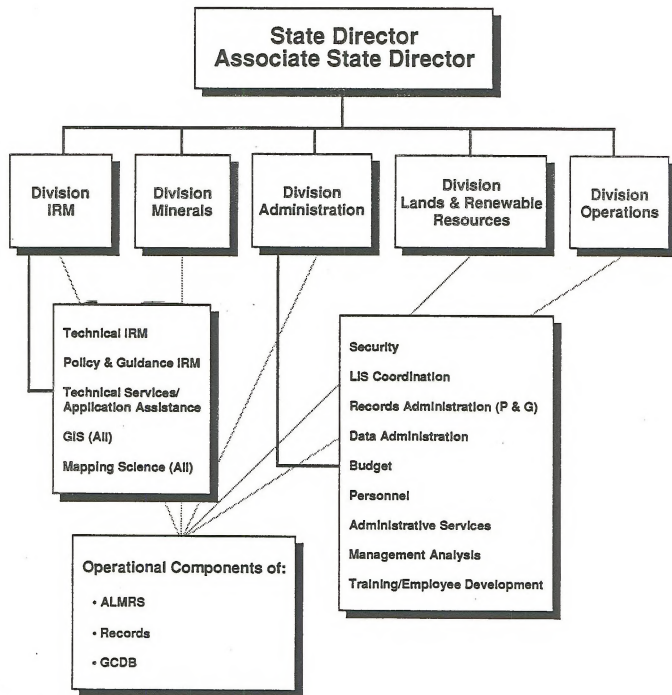
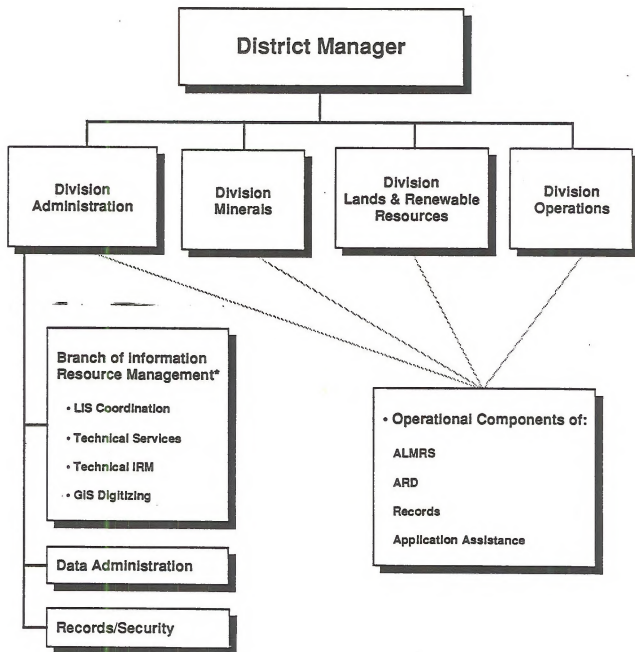


Illustration 6b

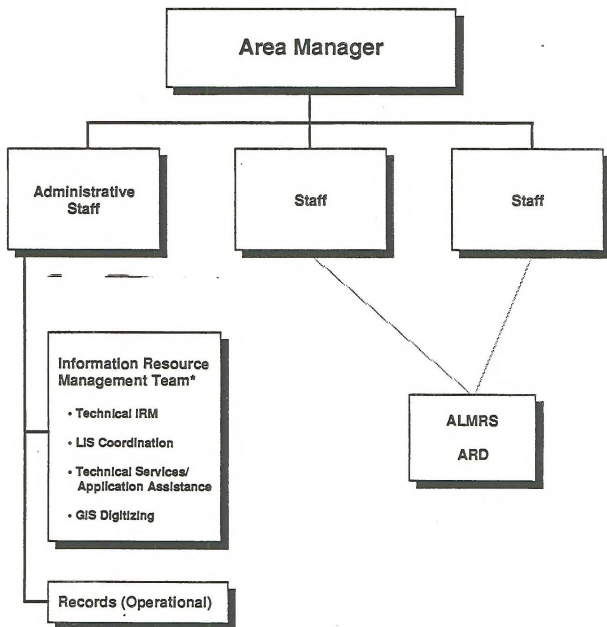
## District Office Recommended Alternative



\*May be a staff reporting to ADM for Administration in smaller Districts.

Illustration 6c

## Resource Area Office Recommended Alternative



Alternatively:

\*Report to AM as IRM Staff if Size/Activity/Responsibility Warrants

***Advantages:***

- Elevates the importance and authority of IRM.
- Concentrates most ADP technical responsibilities in one organization.
- Provides backup for user support within a single organization.
- Places LIS Coordinator, Data Administration, Records Administration, and Security in the same organization. Will facilitate coordination between these functions.
- Is less disruptive than combining Divisions of Operations and Administration.

***Disadvantages:***

- Isolates IRM expertise in one Division.
- Adds one new Division to the State Office.
- Key IRM Coordinators and Administrators are separated from operational and technical expertise. Will require greater coordination efforts between Divisions.



**Appendix A**  
**Automation-Modernization Function/Structure**  
**Decision Document**

## Functional Issues

### *Program Leaders/Management of Automation-Modernization (Issue II A, Page 3)*

#### Issue

There are diverse interpretations about the role of program leaders and the function of managing automation-modernization in specific program areas. Some assume management, some do not, resulting in lack of and fragmented guidance on automation in program areas.

#### Alternatives

- a. Delegate the function of developing and implementing policies and procedures for program automation to technical ADP positions/organizations.
- b. Delegate the function of developing and implementing policies and procedures for program automation to program leader positions and organizations at State, District, and Resource Area levels.

#### Recommendations

Alternative b. with the following functions related to automation:

- Develop automation/modernization policies and procedures related to specific programs (handbooks, etc.).
- Determine automation program needs at appropriate organization levels (functional requirements).
- Develop, implement, and track plans and budgets for automation within specific programs.
- Manage automated program data:
  - Determine automated program data needs.
  - Determine automated data standards (within data administration guidelines).
  - Provide for data collection and entry (spatial and keyboard).
  - Prepare and administer data related contracts.
  - Develop and administer quality control standards.
- Provide training for program specific applications.
- Provide user support for program specific applications.

#### Decision

Approved as recommended

Signature

Date

Disapproved

Signature

Date

Approved as modified

Signature

Date

**Administration of Data (Issue II C, Page 9)****Issue**

Apart from the impact of managing data within specific programs, the Bureau does not have in place agreed upon functions for the overall administration of data. Without comprehensive guidance and disciplined control of data, hardware and software will be of very limited value.

**Alternatives**

- a. Accomplish management within each program (Issue A) and accomplish comprehensive data administration on an ad-hoc basis.
- b. Create new data administration functions to accomplish those comprehensive functions on a continuous basis at all field office levels.

**Recommendations**

Alternative b with the following functions:

- Develop policies and procedures for data administration.
- Identify data ownership (corporate, program, external, etc.)
- Oversee the development of standards, attributes, codes, etc.
- Identify and implement guidance for data exchange, and cost recovery.
- Develop and implement guidelines for data security and access.
- Develop and implement guidelines for data modeling.
- Develop and implement guidelines for the administration of data element dictionaries.
- Provide quality control oversight for data administration.

**Positions:**

- There should be a full-time Data Administrator in each State Office.
- There should be a full-time or a collateral Data Administrator with records administration responsibilities at each District Office.
- There should be a collateral Data Administrator with records administration at each Resource Area Office.

**Decision**

Approved as recommended

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

Disapproved

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Signature

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Date

Approved as modified

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Signature

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Date

*Administration-Management of Automated Records (Issue II D, Page 11)*

## Issue

The Bureau currently has no functional description for the work required to administer the automation of records. This new function involving policies and procedures for the creation, storage, retrieval, ownership, and access to legal, public, sensitive, and working records etc. goes beyond the tasks of current Records Managers. This situation parallels in many respects that of data administration.

## Alternatives

- a. Do not create an automated records administration function. Wait until there is more definitive Government-wide guidance on automation of records then decide on function in BLM.
- b. Create an automated records administration function. BLM take the lead for development of policies and procedures for the automation of records which BLM controls.

## Recommendation

Alternative b with the following functions:

- Develop policies and procedures for records administration.
- Oversee the development of standards (ownership, legal, public, sensitive, and other types of records).
- Develop and implement guidelines for records security, access, exchange and cost recovery.
- Provide quality control oversight for Records Administration.
- Provide guidance for Records Administration training.

## Positions:

- There should be a full-time Records Administrator in each State Office.
- There should be a collateral Records Administrator with data administration responsibilities in each District Office.
- There should be a full-time or collateral records administrator with data administration responsibilities in each Resource Area as workload dictates.

## Decisions

Approved as recommended

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

Disapproved

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Signature

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Date

Approved as modified

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Signature

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Date

**Role/Function of "Coordinators" (ALMRS, GCDB, ARD, GIS) (Issue II E, Page 14 )****Issue**

The role of most "coordinators" has evolved beyond performing information transfer and coordination. The current functions involve operation and program management type roles. The term "coordinator" is not well defined and the functions and structural placement of "coordinators" is widely diverse across the Bureau causing communication and delegation problems.

**Alternatives**

- a. Maintain "coordinators" as ad hoc, diversely defined positions performing current roles.
- b. Redefine "coordinator" positions as performing "true" coordination roles.
- c. Recognize the evolved operational functions of coordinators. Clearly define their current roles and institutionalize them into existing organizational units.

**Recommendation**

Alternative c as follows:

- a. Delete GCDB coordinator title, include functions and retitle positions in S.O. Division of Operations (Cadastral Survey).
- b. Delete ALMRS Coordinator title, include functions and retitle positions in appropriate operational unit.
- c. Delete GIS Coordinator title, include the technical hardware/software aspects in Division of Administration. Include the working knowledge of GIS applications in the program areas (program leaders).
- d. Delete ARD Coordinator title, include the functions for automating resource data in the role of program leaders and specialists.

**Decision**

Approved as recommended

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*LIS Coordination - Developing and Managing the Land Information System (Issue II F, Page 16)***Issue**

By definition LIS is a system. It may also develop into an institutionalized BLM program (the planning system/program is a parallel), with significant meaning and visibility. Developing and managing LIS is a function needing clarification and standardization. Currently the LIS Coordination functions are loosely and diversely defined.

**Alternatives**

- a. Consider LIS Coordination as a short-lived need and provide a sunset.
- b. Consider LIS Coordination a long-range system/program need, and institutionalize the coordination and program management function.

**Recommendation**

Alternative b with the following functions:

- Develop policies and procedures for integrating GCDB, ARD, and ALMRS into a true Land Information System.
- Build and manage LIS as a Bureau program, coordinate the development of LIS plans, budgets, and evaluations.
- Coordinate educational outreach and inreach efforts.
- Coordinate user support for LIS applications.
- Coordinate and provide for training in LIS and its applications as a system.

**Decision**

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*Integrating and Managing Mapping Sciences (Issue II K, Page 24)***Issue**

Currently the functions of remote sensing, aerial photography/photogrammetry, cartography, plat drafting, map preparation, and graphics are distributed across a wide variety of organizations. Coordination has been weak and some functions are not adequately staffed. Automation technology provides an opportunity for logically combining these functions in a scientific context as other mapping agencies have done.

**Alternatives**

- a. Provide flexibility by keeping components separate.
- b. Provide continuity by standardizing functions under mapping science umbrella.

**Recommendation**

Alternative b with the following functions:

- Develop policies and procedures for a mapping science program integrating remote sensing, aerial photography/photogrammetry, cartography, plat drafting, and map preparation.
- Provide Mapping Science support for LIS e.g., Resources Base Data maps and GCDB maps and plats.
- Provide Mapping Science support for resource management programs.
- Manage the Mapping Science function.

**Decision**

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*Improving Technical ADP Support and Management (Issue II G, Page 18)***Issue**

This issue deals with the need to clarify technical ADP functions and to provide technical ADP service support to users. Currently the State and District Office ADP organizations vary considerably in their functions and the support they are able to provide. When adequate support is not provided, user offices have attempted to fill the gap using "expert users."

**Alternatives**

- a. Maintain the current diversity in Technical ADP functions and provide technical support on an ad hoc basis.
- b. Agree on and standardize the functions for Technical ADP in the field offices and provide consistent technical services support to the users.

**Recommendations**

Alternative b with the following functions:

- Provide management of the Technical ADP function.
  - Develop ADP policies and procedures.
  - Develop plans and budgets (to support management direction).
- Responsible for life-cycle-management process.
- Responsible for configuration management process.
- Develop and manage automated systems design.
- Develop policies and procedures for computer operations (mainframe-minis-and micros.)
- Develop policies and procedures for telecommunications (Data, Radio, Voice, Microwave, LANS, etc.)
- Implement policies and procedures for ADP security.
- Develop policies and procedures for data base administration.
- Conduct monitoring and evaluation of ADP.
- Provide training in ADP.

Note: For basic technical services support it is recommended that this function be performed by the IRM unit unless it becomes a full-time function in operational units, (Divisions in the S.O) then the operational units would require their own positions to perform full-time basic technical services support. Complex programming, design, etc. would be performed by the ADP unit.

**Decision**

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***The Leadership Function for Automation-Modernization (IRM) (Issue II B, Page 7)*****Issue**

Technical ADP people and users have different motivations, understanding and skills related to automation-modernization. This situation causes concern about priority-setting, budgeting, and other leadership skills necessary for managing technical programs, impacts on the workforce and dealing with rapid change, especially in the face of on-going work.

**Alternatives**

- a. Do not develop leadership skills/functions specifically related to managing automation-modernization (IRM).
- b. Develop leadership skills/functions specifically related to managing automation-modernization (IRM).

**Recommendation**

Alternative b with the following functions assigned to Managers and Supervisors:

- Develop comprehensive understanding of automation technology (current and potential) for Bureau applications.
- Improve individual computer literacy and proficiency and develop individual applications.
- Provide direction for automation-modernization policies, procedures, plans, and budgets.
- Participate in and provide guidance to appropriate steering and user committees.
- Recognize and manage impacts of rapid changes on the Bureau workforce.
- Provide leadership to assure the necessary discipline is achieved to develop and adhere to established standards, policies and procedures.

**Decision**

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## Organizational Issues

### Field Office Organizational Structure

#### Issue

BLM State, District, and Resource Area Offices have organizational structures designed to accomplish our traditional mission, (e.g. Administration, Operations, L&RR, and Minerals). There is much disagreement about where information resources management functions should be placed in the Field Office organizations.

#### Alternatives (Illustration Below)

##### Alternative A

Consider information resources management a functional responsibility of all Bureau programs. Maintain a Branch of Information Services in an existing organizational unit, (e.g. Operations or Administration) in State and District Offices.

Organizational Decisions	
<input type="checkbox"/> IRM Branch/Staff	<input type="checkbox"/> IRM Division
<input type="checkbox"/> In Div. Administration (Recommended)	<input type="checkbox"/> New IRM Division (Policy & Guidance) <i>Retain Division of Administration.</i> (5 DSDs)
<input type="checkbox"/> In Division of Operations	<input type="checkbox"/> New IRM Division (Policy, Guidance, and Operations) <i>Retain Division of Administration.</i> (5 DSDs)
	<input type="checkbox"/> New IRM Division (Policy & Guidance) <i>Combine remaining Administration functions with Division of Operations and rename Division of Support Services.</i> (4 DSDs)
	<input type="checkbox"/> New IRM Division (Technical IRM) <i>Combine LIS Coordination, Records Administration, Data Administration, and Security with remaining Administration functions. Retain Division of Administration.</i> (5 DSDs)



**Subalternative A1 (Illustrations 1a, b, c, pg. 28-30)****State Office:**

- Establish or maintain the existing Information Services in Division of Administration.
- Establish a staff reporting to DSD of Administration to handle LIS Coordination, Data Administration, Records Administration and Security policy and guidance.
- Operational aspects of existing systems like ALMRS, GCDB, and ARD remain with the primary users of the system.

**District Office:**

- Establish or maintain an IRM Branch/Staff reporting to the District Manager or ADM of Administration.
- Place LIS coordination functions in the IRM Organization.
- Records, Security and Data Administration are responsibility off ADM for Administration.

**Resource Areas:**

- Establish or maintain existing IRM Staff reporting to the Area Manager or Administrative head.

**Subalternative A2 (Illustrations 3a, b, c, pg. 36-39)****State Office:**

- Establish IRM Branch in Division of Operations.
- Establish a staff reporting to the DSD of Operations to handle LIS coordination, Data Administration, Records Administration and Security policy and guidance.
- Operational aspects of existing systems like ALMRS, GCDB and ARD would remain with its primary users.

**District Office:**

- Establish an IRM Staff/Branch reporting to DM or ADM of Administration.
- LIS coordination is placed in IRM organization.
- Records, Security and Data Administration are located in Division of Administration.

**Resource Areas:**

- Establish or maintain existing staff reporting to Area Manager or the Administrative head.

**Alternative B**

Consider information resources management a new Bureau initiative that goes far beyond functional responsibilities of existing Bureau programs. Create a new Division of Information Resources Management in State and District Offices.

**Subalternative B1 (Illustrations 2a, b, c, pg. 32-35)****State Office:**

- Establish a Division of IRM.
- LIS Coordination, Records and Data Administration on staff reporting to DSD for IRM.
- Operational aspects of existing systems; ALMRS, GCDB and ARD remain with primary users.

***District Office:***

- Establish a Division or Staff reporting to DM.
- LIS Coordination, Records and Data Administration policy and guidance on staff reporting to DM.
- Operational aspects of ALMRS and ARD remain with users.

***Resource Areas:***

- Establish or maintain existing IRM Staff reporting to Area Manager or Administrative head.

***Subalternative B2 (Illustrations 4a, b, c, pg. 40-42)******State Office:***

- Establish a Division of IRM.
- All aspects including policy, guidance and operational aspects of ALMRS, GCDB, ARD and Records placed in Division of IRM.
- LIS Coordination, Records Administration and Data Administration on staff reporting to DSD for IRM.

***District Office:***

- Establish a Division or Staff reporting to DM.
- Division or Staff provides policy and guidance for LIS Coordination, Records Management, Data Administration, ALMRS and ARD.
- Operational aspects of ALMRS and ARD remain with primary users.

***Resource Area:***

- Establish or maintain existing IRM staff reporting to Area Manager or Administrative head.

***Subalternative B3 (Illustrations 5a, b, c, pg. 44-47)******State Office:***

- Establish a Division of IRM
- Combine Divisions of Administration and Operations to form one new Division of Support Services.
- Functions placed in Division of IRM are the same as described for subalternative B1.

***District Office:***

- Establish a Division of IRM
- Combine Divisions of Administration and Operations to form new Division of Support Services.
- Functions placed in the Division of IRM are the same as described for subalternative B1.

***Resource Area:***

- Establish or maintain existing IRM staff reporting to the Area Manager or Administrative head.

***Subalternative B4 (Illustrations 5a, b, c, pg. 44-47)******State Office:***

- Establish a Division of IRM consisting of all technical ADP functions.
-

- Retain Division of Administration by adding LIS Coordinator and policy and guidance for records administration, data administration, and security.
- Operational aspects of ALMRS, GCDB, and records remain in user Division.

***District Office:***

- The organization would be the same as on the recommended alternative.

***Resource Areas:***

- The organization would be the same as in the recommended alternative.

**Recommendations (Illustrations 1a, b, c, pg. 28-30)**

Consider information resource management a functional responsibility of all programs and accommodate it in the existing organizational structure.

***At the State Office***

- Maintain the existing Branch of Information Services in the Division of Administration.
- Establish a Staff reporting to the DSD for Administration to provide LIS Coordination and policy and guidance for Records Administration, Data Administration, and Security.
- Operational aspects of ALMRS, ARD and GCDB will remain with the primary users in other Divisions.

***At the District Office***

- Establish or maintain the existing Branch of Information Services in the Division of Administration or a Staff reporting to the District Manager.
- Records, Data Administration and Security on a staff reporting to ADM for Administration.
- LIS Coordination functions are placed in the IRM Organization.

***At the Resource Area***

- Establish or maintain an IRM Staff reporting to the Area Manager or Administrative head.

**Decision**

Approved as recommended

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## Follow-ups Issues

### *Classification and other Personnel Actions*

#### Issue

Once decisions are made on automation, modernization (IRM) functions and organizational structures, there needs to be administrative follow-up to document functional statements, delegations, position descriptions, classification standards, PIPRs, Vacancy Announcements, etc. These actions should be taken in a manner which permits and ensures Bureauwide implementation as rapidly as possible.

#### Alternatives

- a. Each office develop their own administrative documentation without Bureauwide reference.
- b. Provide Bureauwide documentation guidelines and standards with input from all organization levels.

#### Recommendation

Alternative b with the following action steps:

- WO (800) outline objective and make assignments.
- Prepare and issue guidance to all offices.
- All offices prepare implementation plans.
- Implement plans (Tie to FY 1990 AWP).
- Monitor and evaluate.

#### Decision

Note: The AD Management Service has been developing an action plan based on alternative b. This plan will be integrated with the "Modernization Master Plan" and with the FY 1990 AWP.

## ***Skills Acquisition and Development***

### **Issue**

Once the functions for automation modernization have been defined at each organizational level, there needs to be follow up to assure that the right type and amount of skills are in place to perform those functions. There is presently no Bureauwide strategy to acquire needed skills. Such a strategy must include and integrate training, recruitment and contracting and be tied to the multi-year budget planning process.

### **Alternatives**

- a. Each office develop their own total skill acquisition plans without Bureauwide reference.
- b. Each office build on their current training plans to include more emphasis on recruitment and contracting.
- c. Develop guidelines and procedures for a Bureauwide integrated strategy for skill acquisition which includes training (building on the recent Training Needs Analysis), recruitment, and contracting.

### **Recommendation**

Alternative c with the following action steps:

- WO (800) outline objectives and make assignments.
- WO Leads from Training, Personnel and Administrative Services prepare criteria for preparing an integrated plan.
- Under guidance from the integrated plan each component prepare guidance to all offices.
- Each office prepare and integrate component plans.
- Implement Plans (Tie to FY 1990 AWP).
- Monitor and Evaluate.

### **Decision**

Note: The AD Management Service has been developing an action plan based on alternative c. This plan will be integrated with the "Modernization Master Plan" and with the FY 1990 AWP. There will be coordination with EEO.



***Washington Office/Service Center Roles and Functions In Information Resources Management*****Issue**

Significant confusion exists over the roles and functions of the WO and the Service Center relating to automation/modernization (IRM). Clarification of the S.O., D.O. and R.A. functions and organizational structure may influence the W.O. and S.C. functions. New W.O. and S.C. organizations have been in place long enough to review. Also, there has been a shift in work emphasis from project development of the Target System to system implementation and management.

**Alternatives**

1. Do not attempt to review and clarify the W.O./S.C. automation-modernization functions at this time.
2. Review, evaluate and clarify the W.O./S.C. automation-modernization functions.

**Recommendation**

Alternative b with the following action steps:

- Authorized the W.O./S.C. review/evaluation study. Director/W.O. 800.
- Establish team and develop action plan.
- Complete review/evaluations.
- Brief Director (BMT) with recommendations/decisions.
- Prepare implementation plans.
- Implement action plans.
- Monitor and evaluate.

**Decision**

Note: The AD Management Service has been developing an action plan based on alternative b. This plan will be integrated with the "Modernization Master Plan" and with the FY 1990 AWP. The plan has been discussed with and reviewed by the S.C. Director and the Acting AD Support Services.

## Appendix B

### Study Team Members & Steering Committee Members

#### Study Team

Name	Expertise	Position	State
Pieter Van Zanden	(Team Leader)	ASD	Idaho
Al Pierson	Mgmt. Analyst	Mgmt. Analyst	WO 840
Ed Harne	IRM	SO IRM Branch Ch.	Utah
Terry Nichols	Admin.	DSD-Admin.	AZ
Bob Bainbridge	L&RR	DSD-L&RR	ESO
Bob Bennett	Minerals	ADSD-Minerals	WY
Aaron Horton	LIS	LIS Coord.	NM
Heidi Porter	ALMRS	ALMRS Coord.	CA
Mike Hengel	OA	Comp. Sys. Anyl.	SC 313
Fran Cherry	DM	DM	NM
Paul Jeske	RA Res.Ops.Mgr.	Res. Ops. Mgr.	OR
Linda Sedbrook	Personnel	Classif. Spec.	SC 631
Duane Tabb	Ops/Mpg Sci/Cadastral	WO Div. Ch.	WO 730

#### Steering Committee

Name	Position	Location
Ron Hofman	Special Asst. WO-800	OR
Judith Herrington	Mgmt. Analyst	SC
Dennis Anderson	IRM Br. Ch.	WO-773
Mike Penfold	SD	AK
Neal Morck	SD	CO
Bob Moore	SC Director	DSC
Ron Fox	DSD Administration	CA

## **Appendix C**

### **Memorandum Authorizing the Study**





## United States Department of the Interior

1210 (840)

BUREAU OF LAND MANAGEMENT

WASHINGTON, D.C. 20240

EMS Transmission - 10/27/88  
Instruction Memorandum No. 89-59  
Expires: 9-30-89

October 25, 1988

To: All WO and Field Officials

From: Director

Subject: Information Resources Management Organization Study

Automation is having a major impact on the Bureau. During the development of our interim and target systems, we will be experiencing an increased proliferation of hardware and applications in our Field Offices, (State Offices, District Offices, and Resource Areas). In some instances, new organizations are being established or proposed to try to deal with the needs of the Field Offices as they relate to Information Resources Management (IRM). There are wide variations in approach, placement of IRM in the organizations, and functions assigned at each level.

It is apparent that automation will have an impact not only on how we do our business in the future but also on our existing organizational structure at every office level Bureauwide. This has been recognized by the BMT and the Field Committee. To follow up on their recommendations, I have requested the Assistant Director, Management Services, through the Division of Management Research, to conduct a Bureauwide study on the existing effects of automation and the effects that modernization will likely have on our Field Offices, IRM organization structures, and to make recommendations on how we can prepare ourselves organizationally for the change. From an organization management standpoint it is essential that we agree on what consistency and standards are appropriate Bureauwide.

This study is being conducted to assist you in your preparation for implementing the target system. I realize there are staffing needs which must be addressed immediately and some changes in your organizations may be necessary during the course of this study. I am however, discouraging you from making significant changes in your organizations with respect to IRM, until the results of this study are final.

The objectives of the study are:

1. Clarify the roles of line managers, program leads/specialists, and technical ADP people in automation at the three Field Office levels to support the Bureau mission.
2. Identify the automation functions (work) to be performed at each Field organization level, such as technical hardware support, hardware/software maintenance, training, applications support, and system support.



3. Identify automation related skill needs at each Field Office level to get the work done.
4. Develop recommended and alternative organization structures related to automation needs for each Field Office level.
5. Develop recommendations on how to acquire needed automation skills.
6. Recommend steps to develop position descriptions, classification, and titles for needed skill types.

The study will be done by the following team, composed primarily of employees from all three Field Office levels. Other team members include representatives of the Headquarters Office and the Service Center. An advisory committee will be formed which will include among others, at least one State Director, the Service Center Director, and Ron Hofman, Special Assistant to the Assistant Director, Management Services. The role of this committee is to advise the study team as needed throughout the study.

STUDY TEAM			
Name	Expertise	Position	State
Pieter Van Zanden	Team Leader	ASD	ID
Al Pierson	Management Analyst	Management Analyst	WO 840
Terry Nichols	Administration	DSD, Admin.	AZ
Ed Harne	IRM	Ch., Branch Info Sys.	UT
Bob Bainbridge	L&RR	DSD, L&RR	ESO
Bob Bennett	Minerals	ADSD, Minerals	WY
Mike Dwyer	LIS	LIS Coord.	NM
Heidi Porter	ALMRS	ALMRS Coord.	CA
Mike Hengel	OA	Comp. Sys. Analyst	DSC
Fran Cherry	DM	DM, Roswell	NM
Paul Jeske	RA Res. Ops. Manager	Res.Ops.Mgr., Salem	OR
Sharon Salpini	Personnel	Pers. Staffing Spec.	WO 831
Duane Tabb	Ops/Mpg.Sci/Cadastral	Ch., Div. of Eng.	WO 730

We anticipate a three-step approach will be employed to gather information for the study. First will be a review of existing analyses and actions already taken by the various Field Offices to look at the work anticipated, the skills needed, the roles and functions, and the organizational placement of IRM in existing organizations. From this we can determine similarities and differences and see what issues we have to resolve on a Bureauwide basis. Based on step one, we plan to take a broader look at how these issues may relate to all offices and to establish a base line of existing skills, IRM functions being performed, and any other IRM organization ideas. This step will be done by questionnaire. A third step will be to conduct interviews with managers and others and to conduct any needed Field visits to observe ongoing organizational units in operation and to gather any additional data.

The proposed study schedule is as follows:

Scoping	9/23/88
Initial Team Meeting	10/24/88
Mail Questionnaire	11/25/88
Field Visits	3/10/89
Draft Report Prepared	4/21/89
Final Report Prepared	6/30/89



Robert F. Burford  
Director

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